CDX-3150

SERVICE MANUAL

AEP Model
UK Model

Model Name Using Similar Mechanism	CDX-4160RDS
CD Drive Mechanism Type	MG-333X-121
Optical Pick-up Name	KSS-520A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 - 108 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz
Capture ratio	2 dB

MW/LW

Tuning range	MW : 531 - 1,602 kHz LW : 153 - 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	MW : 30 µV LW : 50 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Power aerial relay control lead Power amplifier control lead
Tone controls	Bass ±10 dB at 100 Hz Treble ±10 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 180 mm (w/h/d)
Mounting dimension	Approx. 183 × 53 × 163 mm (w/h/d)
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER

MICROFILM

SONY®

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

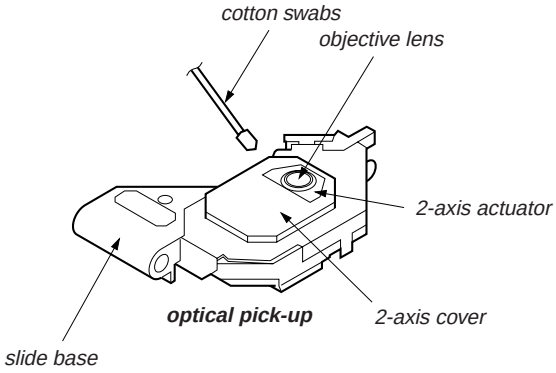
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

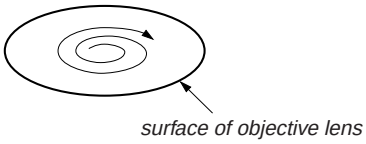
NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

NOTES ON CLEANING THE OBJECTIVE LENS



Apply CD lens cleaner B-4 (Part No.:J-2501-000-A) to cotton swabs (narrow type) (Part No.:J-2501-023-A) to be lightly wet. Use a force (about 5 g) to make the objective lens in contact with the bottom lightly, and clean the lens by spirals as following below.
Replace the cotton swab and repeat this cleaning two or three times.



Notes:
Do not force to push the objective lens. Otherwise, the plate spring supporting the objective lens will be bent, causing a deteriorated RF waveform.
Never touch anything other than the objective lens. Otherwise, a significant deterioration occurs in the RF waveform.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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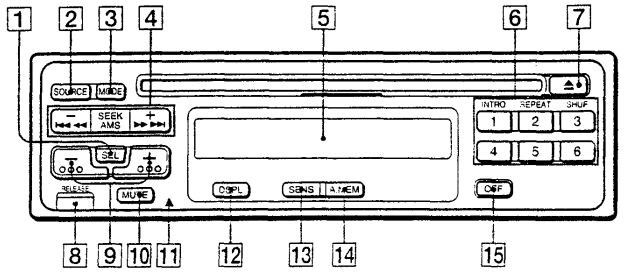
Location of controls



Refer to the pages for details.

1 SEL (control mode select) button 5, 8
2 SOURCE (source select) button 5, 6, 7
3 MODE (band select) button 6, 7
4 SEEK/AMS (seek/Automatic Music Sensor/manual search) button 5, 6, 7
5 Display window
6 During radio reception:
Number buttons 6, 7
During CD playback:
① INTRO button 6
② REPEAT button 6
③ SHUF button 6
7 ⏏ (eject) button 5
8 RELEASE (front panel release) button 4, 10
9 + − (volume/bass/treble/balance/fader control) buttons 5, 8
10 MUTE button 8
11 Reset button (located on the front side of the unit hidden by the front panel) 4
12 DSPL (display mode change/time set) button 5, 7
13 SENS (sensitivity adjust) button 7
14 A.MEM (Automatic Memory) button 6
15 OFF button 4, 5, 8

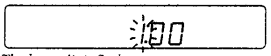
Setting the clock

The clock has a 24-hour digital indication.

Example: Set the clock to 10:08

1 Press (OFF) or (DSPL) during operation.

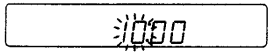
2 Press (DSPL) for more than two seconds.



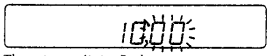
The hour digit flashes.

❶ Set the hour digits.

to go back to go forward



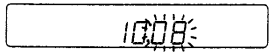
❷ Press (SEL) momentarily.



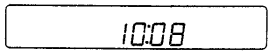
The minute digits flash.

❸ Set the minute digits.

to go back to go forward



3 Press (DSPL) momentarily.



The clock is activated.

Note

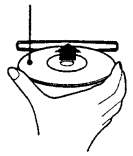
If the car has no accessory position on the ignition key switch, the clock cannot be set unless the power is turn on. Set the clock after you have turned on the radio, or started CD playback.

CD Player

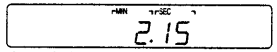
Listening to a CD

Simply insert the CD.
Playback starts automatically.

Labelled side up



If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears.



Elapsed playing time

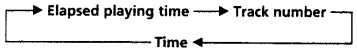
Note

To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	⏏ or (OFF)
Eject the CD	⏏

Changing the displayed items

Each time you press (DSPL), the item changes as follows:



Locating a specific track — Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) momentarily.

To locate preceding tracks **To locate succeeding tracks**

SECTION 1
GENERAL

This section extracted from instruction manual.

Locating a specific point in a track
— Manual Search

During playback, press and hold either side of (SEEK/AMS) for two seconds. Release the button when you have found the desired point.

To search backward To search forward

Note

If "_ _ " or " _ _" appears in the display, you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

Searching for the desired track
— Intro Scan

Press (1) during playback.
"INTRO" appears in the display.

The first 10 seconds of all the tracks are played.

When you find the desired track, press again. The unit returns to the normal playback mode.

Playing tracks repeatedly
— Repeat Play

Press (2) during playback.
"REPEAT" appears in the display.

When the currently played track is over, it will be played again from the beginning.

To cancel this mode, press again.

Playing tracks in random order
— Shuffle Play

Press (3) during playback.
"SHUFFLE" appears in the display.

All tracks on the CD are played in random order.

To cancel this mode, press again.

Radio

Memorising stations automatically
— Automatic Memory

Stations with the clearest reception are automatically searched and memorized on each band (FMI, FMII, FMIII, MW and LW). Up to 6 stations on each band can be stored on the number buttons ((1) to (6)) in the order of band frequency.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:
CD ⟷ TUNER

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the mode changes as follows:
→ FMI → FMII → FMIII → MW → LW →

3 Press (A.MEM) for two seconds.
The unit will be starts scanning the selected band and memories the tuned stations on the number button (1) through (6) automatically.

Notes

- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons remain empty.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*
- *If a CD is not in the unit, only the tuner band appears even if you press (SOURCE).*

Memorising only the desired stations

You can store up to 6 stations on each band (18 for FMI, FMII and FMIII, 6 for each MW and LW) in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band.

3 Press either side of (SEEK/AMS) to tune in the station that you want to store on the number button.

4 Press the desired number button ((1) to (6)) for two seconds until "MEM" appears.
The number button indication appears in the display.

Note

If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorised stations

1 Select the desired band (page 6).

2 Press the number button ((1) to (6)) momentarily where the desired station is stored.

If you cannot tune in a preset station

Press either side of (SEEK/AMS) momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/AMS) repeatedly until the desired station is received.

Note

If the automatic tuning stops too frequently, press (SENS) momentarily until "LCL" appears in the display (local seek mode). Only the stations with relatively strong signals will be tuned in.

Tip

If you know the frequency of the station you want to listen to, press and hold either side of (SEEK/AMS) for two seconds until the desired frequency appears (manual tuning).

If FM stereo reception is poor
— Monaural Mode

Press (SENS) momentarily until "MONO" appears.
The sound improves, but becomes monaural ("ST" disappears).

To go back to the normal mode, press again until "MONO" disappears.

Changing the displayed items

Each time you press (DSPL), the items alternate between the frequency and time.

Other Functions

Adjusting the sound characteristics

You can adjust bass, treble, balance and fader. Each source can store the bass and treble level independently.

1 Select the item you want to adjust by pressing (SEL) repeatedly.

VOL (volume) → BAS (bass) → TRE (treble) → BALANCE (balance) → FADER (fader)

2 Adjust the selected item by pressing ⊕ or ⊖.

Adjust within three seconds after selecting the item. (After three seconds, the buttons work as volume control buttons.)

EN

Muting the sound

Press (MUTE).
"MUTE" flashes.

To restore the previous volume level, press (MUTE) again.

Changing the sound and beep tone

Enjoying bass and treble even at low volume — Loudness

Bass and treble will be reinforced.

Press (2) while pressing (SEL).
"LOUD" appears in the display.

To cancel, press these buttons again.

Muting the beep tone

Press (6) while pressing (SEL).

To obtain the beep tone again, press these buttons again.

Turning on the clock display — Power Select Function

Only for cars with an accessory position on the ignition key switch

To turn the Power Select Function ON

Press (OFF) while pressing (SEL).
The Power select Function ties the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

Connections

Caution

- This unit is designed for negative earth 12 V DC operation only.
- Connect the power connecting cord ③ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If Your Car has An Accessory Position on the Ignition Key Switch — POWER SELECT Function

To turn the Power Select Function on
Press (OFF) while pressing (SEL).
The Power Select Function ties the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

Reset Button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen etc.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse solamente con 12 V CC, negativo a masa.
- Conecte el cable de conexión de alimentación ③ a la unidad y a los altavoces antes de hacerlo al conector de alimentación auxiliar.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estereofónicos, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente. Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de ésta, no se interrumpa ningún otro circuito.

Si su vehículo dispone de una posición adicional en la llave de encendido — Función de POWER SELECT

Para activar la función de selección de alimentación
Presione (OFF) mientras presiona (SEL).
La función de selección de alimentación conecta la alimentación de la indicación del reloj con la posición para accesorios en el interruptor de la llave de encendido.
Para evitar el desgaste de la batería, el reloj no aparece durante la inicialización de la unidad.

Botón de reposición

Cuando finalice la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.

Connexions

Advertência

- Este aparelho foi projectado para funcionar somente com corrente contínua de 12 V com massa negativa.
- Ligue o cabo de alimentação de corrente ③ ao aparelho e aos altifalantes antes de o ligar ao conector de corrente auxiliar.
- **Ligue todos os fios de terra num ponto de massa comum.**
- Ligue o cabo amarelo a um circuito livre do automóvel com uma capacidade nominal superior à do fusível do aparelho. Se ligar este aparelho em série com outros componentes estéreo, o circuito do automóvel a que estão ligados deve ter uma capacidade nominal superior à soma da capacidade dos fusíveis de cada componente. Se nenhum circuito do automóvel tiver uma capacidade tão alta como a do fusível do aparelho, ligue o aparelho directamente à bateria. Se o automóvel não tiver nenhum circuito disponível para ligação do aparelho, ligue-o a um circuito com uma capacidade superior à do fusível do aparelho para que se o fusível do aparelho se fundir, nenhum dos outros circuitos seja cortado.

Quando o carro tiver uma posição de acessório na ignição — Função POWER SELECT

Para activar a função de selecção de alimentação (Power Select)
Carregue simultaneamente em (OFF) e em (SEL).
A função de selecção de alimentação liga a visualização do relógio à posição acessórios da chave de ignição.
Para evitar o desgaste da bateria, o relógio não está visível durante a inicialização do aparelho.

Botão de reinicialização

Quando terminar a instalação e as ligações, não se esqueça de carregar no botão de reinicialização com a ponta de uma caneta, etc.

Anslutning

Säkerhetsföreskrifter

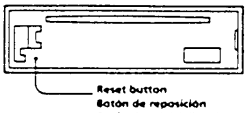
- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Anslut strömkabeln ③ till enheten och högtalarna innan du ansluter den till den yttre strömanslutningen.
- **Dra samtliga jordledningar till en och samma jordningspunkt.**
- Anslut den gula kabeln till en ledig bilkrets som har en säkring med ett högre än ampere än enheten. Om du seriekopplar denna enhet med andra stereokomponenter, måste den bilkrets de är kopplade till ha en säkring med en högre ampere än summan av de enskilda komponenternas ampere. Om det inte finns någon bilkrets som har en säkring med ett lika högt ampere som enheten, ska du ansluta enheten direkt till batteriet. Om det inte finns några bilkretsar att ansluta denna enhet till ska du ansluta enheten till en enhet som har en säkring med ett högre ampere än enheten för att förhindra att inga andra kretsar klipps av om säkringen smälter.

Om bilen har ett tillbehörsläge på tändläset — POWER SELECT-funktionen

Endast för bilar som har ett tillbehörsläge på tändläset.
Du sätter på Power Select-funktionen genom att trycka på (OFF) medan du håller (SEL) intryckt.
Med Power Select-funktionen kopplas strömmen till klockvisningen till tillbehörsläget på tändläset. För att minska batterislitaget visas inte klockan när enheten initialiseras.

Nollställningsknappen

Kom ihåg att använda en penna eller något annat spetsigt föremål för att trycka på nollställningsknappen när anslutningen och monteringen är klar.



Reset button
Botón de reposición
Botão de reinicialização
Nollställningsknapp

Note on the control leads
The power aerial control lead (blue/white striped) supplies +12 V DC when you turn on the tuner.

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Warning
If you have a power aerial (antenna) but, connecting this unit with the supplied power connecting cord ③ may damage the aerial.

Nota sobre conductores de control
El conductor de control de la antena motorizada (azul con raya blanca) suministra +12 V cuando conecte la alimentación a la unidad.

Conexión para protección de la memoria
Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque retire la llave de encendido en la posición OFF.

Notas sobre la conexión de los altavoces
- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

Advertencia
Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de consumo de alimentación ③ suministrado puede dañar la antena.

Nota sobre os fios de controlo
O fio controlo da antena motorizada (azul com listras brancas) fornece + 12 V CC quando da ligação do aparelho.

Ligação para alimentação contínua da memória
Quando ligar o fio amarelo de entrada de alimentação for, os circuitos de memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.

Notas sobre a ligação dos altifalantes
- *Antes de ligar os altifalantes, desligue o aparelho.*
- *Utilize altifalantes com impedância de 4 a 8 ohm e com capacidade adequada de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.*
- *Não ligue os terminais do sistema de altifalantes ao chassis do automóvel, e não ligue os terminais do altifalante direito aos terminais do altifalante esquerdo.*
- *Não tente ligar os altifalantes em paralelo.*
- *Não ligue nenhum sistema de altifalantes activos (com amplificadores incorporados) aos terminais dos altifalantes do aparelho.*
  Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.

Atenção
Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar esta aparelho com o cabo de alimentação ③ fornecido, pode provocar danos na antena.

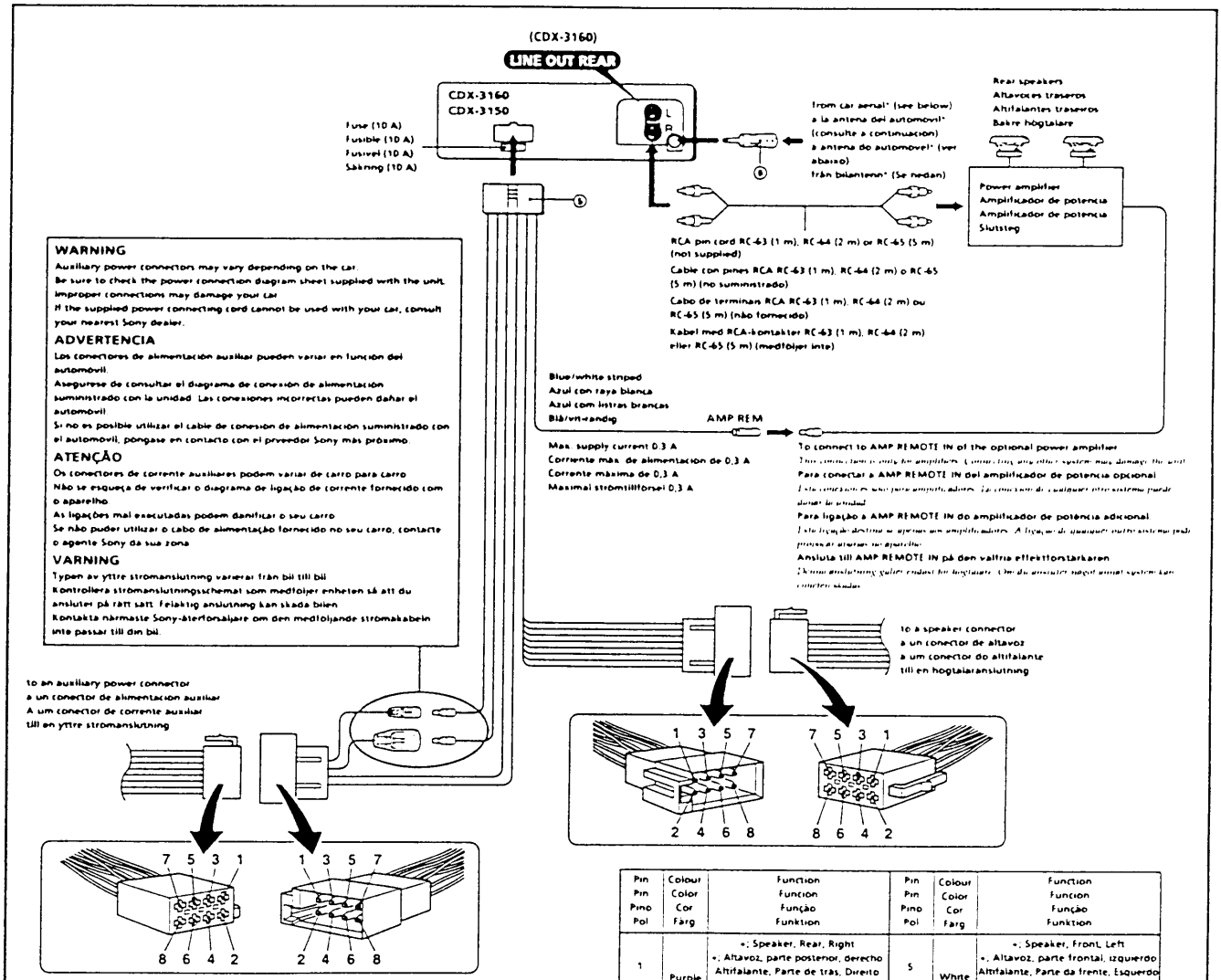
Att observera angående de olika styrkablarna
Motorantennens styrkabel (blå/vit-randig) leder +12 volts likström när bilradions slås på.

Anslutning för minnesstöd
När du ansluter den gula, ingående strömkabeln förses minnesdelen med ström hela tiden, även när tändläget slås ifrån.

Att observera angående högtalarnas anslutning
- *Slå av bilstereon innan du ansluter högtalarna.*
- *Använd endast högtalare, vars impedans varierar från 4 till 8 ohm och som har tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.*
- *Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller utgången på höger högtalare till utgången på vänster högtalare.*
- *Anslut inte högtalarna parallellt.*
- *Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalarutlag, eftersom de kan skada de aktiva högtalarna.*
  Var noga med att bara ansluta passiva högtalare till dessa utlag.

Varning
Om du har en motorantenn utan reläsladd kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ③.

Connection Example — Ejemplo de conexiones — Exemplo de ligações — Anslutningarna enligt exemplet


(CDX-3160)
LINE OUT REAR
CDX-3160
CDX-3150
Fuse (10 A)
Fusible (10 A)
Fusível (10 A)
Säkring (10 A)
from car aerial* (see below)
a la antena del automóvil* (consulte a continuación)
à antena do automóvel* (ver abaixo)
från bilantenn* (Se nedan)
Rear speakers
Altavoces traseros
Altifalantes traseiros
Bakre högtalare
Power amplifier
Amplificador de potencia
Amplificador de potência
Slutsteg
RCA pin cord RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m) (not supplied)
Cable con pines RCA RC-63 (1 m), RC-64 (2 m) o RC-65 (5 m) (no suministrado)
Cabo de terminais RCA RC-63 (1 m), RC-64 (2 m) ou RC-65 (5 m) (não fornecido)
Kabel med RCA-kontakter RC-63 (1 m), RC-64 (2 m) eller RC-65 (5 m) (medföljer inte)
Blue/white striped
Azul con raya blanca
Azul com listras brancas
Blå/vit-randig
AMP REM
Max. supply current 0.3 A
Corriente máx. de alimentación de 0,3 A
Corrente máxima de 0,3 A
Maximal strömtillförsel 0,3 A
To connect to AMP REMOTE IN of the optional power amplifier
Para conectar a AMP REMOTE IN del amplificador de potencia opcional
Para ligação a AMP REMOTE IN do amplificador de potência adicional
Ansluta till AMP REMOTE IN på den valfria effektförstärkaren
to a speaker connector
a un conector de altavoz
a um conector do altifalante
till en högtalaranslutning
to an auxiliary power connector
a un conector de alimentación auxiliar
A um conector de corrente auxiliar
till en yttre strömanslutning
1 3 5 7
2 4 6 8
7 5 3 1
8 6 4 2

WARNING

Auxiliary power connections may vary depending on the car.
Be sure to check the power connection diagram sheet supplied with the unit. Improper connections may damage your car.
If the supplied power connecting cord cannot be used with your car, consult your nearest Sony dealer.

ADVERTENCIA

Los conectores de alimentación auxiliar pueden variar en función del automóvil.
Asegúrese de consultar el diagrama de conexión de alimentación suministrado con la unidad. Las conexiones incorrectas pueden dañar el automóvil.
Si no es posible utilizar el cable de conexión de alimentación suministrado con el automóvil, póngase en contacto con el proveedor Sony más próximo.

ATENÇÃO

Os conectores de corrente auxiliares podem variar de carro para carro.
Não se esqueça de verificar o diagrama de ligação de corrente fornecido com o aparelho.
As ligações mal executadas podem danificar o seu carro.
Se não puder utilizar o cabo de alimentação fornecido no seu carro, contacte o agente Sony da sua zona.

VARNING

Typen av yttre strömanslutning varierar från bil till bil.
Kontrollera strömanslutningsschemat som medföljer enheten så att du ansluter på rätt sätt. Felaktig anslutning kan skada bilen.
Kontakta närmaste Sony-återförsäljare om den medföljande strömkabeln inte passar till din bil.

Pin Pin Pino Pol	Colour Color Cor Färg	Function Función Função Funktion	Pin Pin Pino Pol	Colour Color Cor Färg	Function Función Função Funktion
4	Yellow Amarillo Amarelo Gul	continuous power supply suministro de alimentación continua alimentação de corrente contínua kontinuerlig strömförsörjning	7	Red Rojo Vermelho Röd	switched power supply suministro de alimentación conmutada alimentação de corrente comutada switchad strömförsörjning
5	Blue Azul Azul Blå	power aerial control antena eléctrica antena eléctrica elektrisk servoll	8	Black Negro Preto Svart	earth toma de tierra Terra jord

Positions 1, 2, 3 and 6 do not have pins.
Las posiciones 1, 2, 3 y 6 no disponen de pines.
As posições 1, 2, 3 e 6 não têm pinos.
Positionerna 1, 2, 3 och 6 saknar stift.

Pin Pin Pino Pol	Colour Color Cor Färg	Function Función Função Funktion	Pin Pin Pino Pol	Colour Color Cor Färg	Function Función Função Funktion
1	Purple Purpura	+; Speaker, Rear, Right +; Altavoz, parte posterior, derecho Altifalante, Parte de trás, Direito +; Högtalare, bakre, höger	5	White Blanco Branco Vit	+; Speaker, Front, Left +; Altavoz, parte frontal, izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, främre, vänster
2	Violeta Morklila	–; Speaker, Rear, Right –; Altavoz, parte posterior, derecho Altifalante, Parte de trás, Direito Högtalare, bakre, höger	6		–; Speaker, Front, Left –; Altavoz, parte frontal, izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, främre, vänster
3	Grey Gris Cinza Grå	+; Speaker, Front, Right +; Altavoz, parte frontal, derecho Altifalante, Parte da frente, Direito Högtalare, främre, höger	7	Green Verde Verde Grön	+; Speaker, Rear, Left +; Altavoz, parte posterior, izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, bakre, vänster
4		–; Speaker, Front, Right –; Altavoz, parte frontal, derecho Altifalante, Parte da frente, Direito Högtalare, främre, höger	8		–; Speaker, Rear, Left –; Altavoz, parte posterior, izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, bakre, vänster

Negative polarity positions 2, 4, 6, and 8 have striped cords.
Las posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.
As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos de risca.
De negativa polpositionerna 2, 4, 6 och 8 har randiga kablar.

* *Note for the aerial connecting*
If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adaptor Ⓑ to connect it.
First connect the car aerial to the supplied adaptor, then connect it to the aerial jack of the master unit.

* *Nota sobre la conexión de la antena*
Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado para Ⓑ conectarla.
En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.

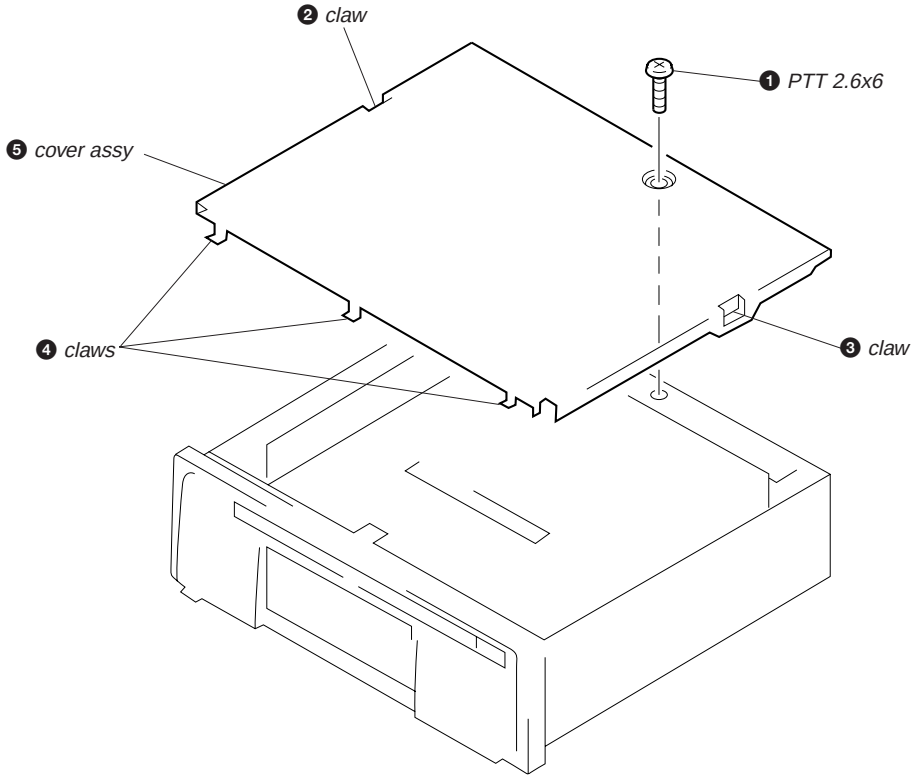
* *Nota referente à ligação da antena*
Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido Ⓑ para fazer a ligação respectiva.
Ligue primeiro a antena do automóvel ao adaptador fornecido e depois a ficha tipo jack do sistema principal.

* *Angående antennanslutning*
Om motorantennen är ett ISO-typ (International Organization for Standardization) använder du medföljande adapter Ⓑ för att ansluta den.
Anslut först motorantennen till medföljande adapter och därefter till antennuttaget på huvudenheten.

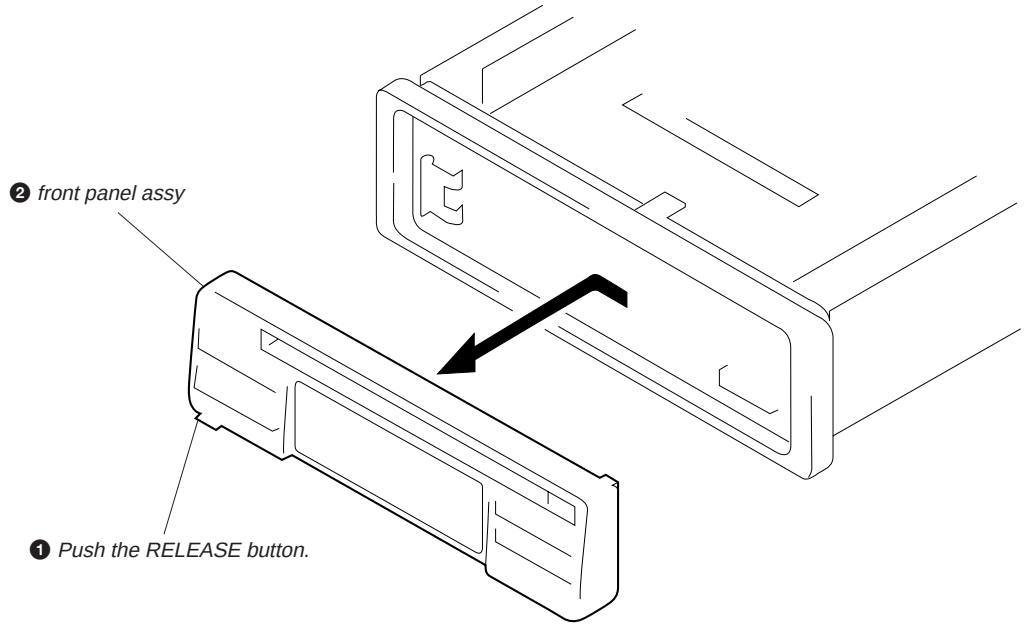
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

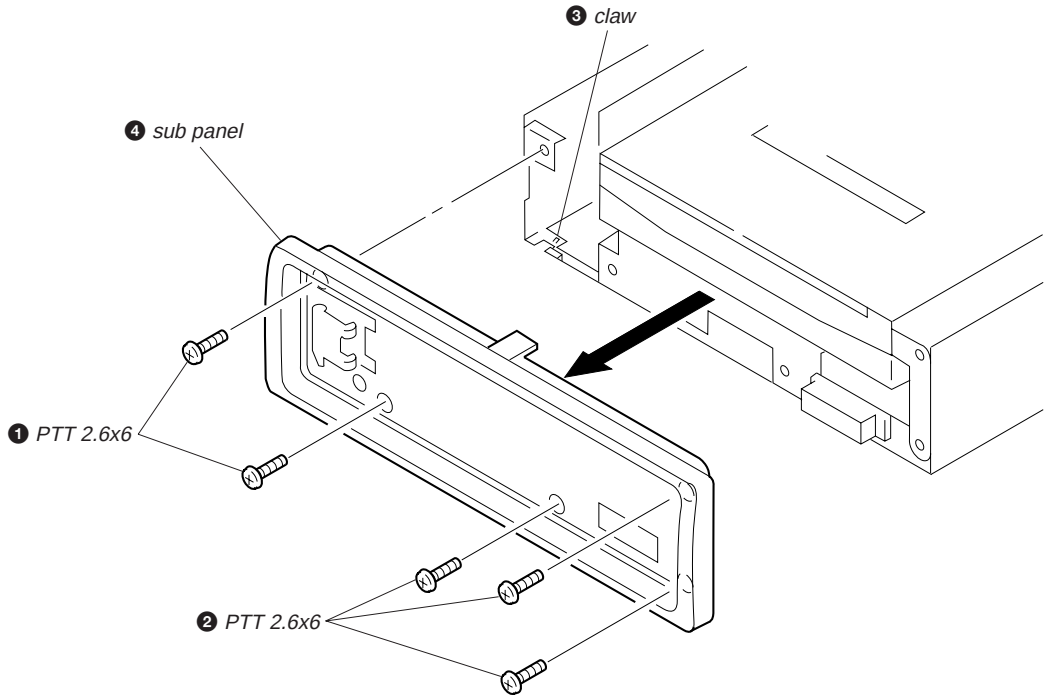
2-1. COVER ASSY



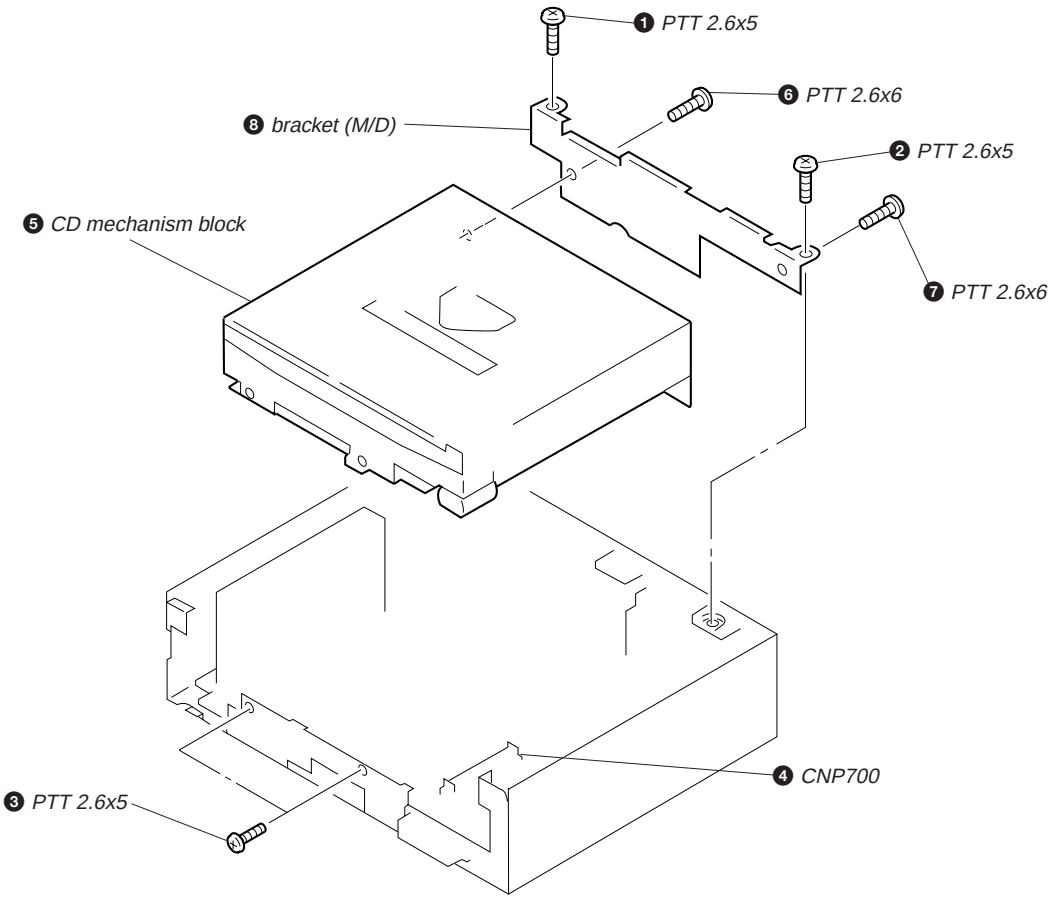
2-2. FRONT PANEL ASSY



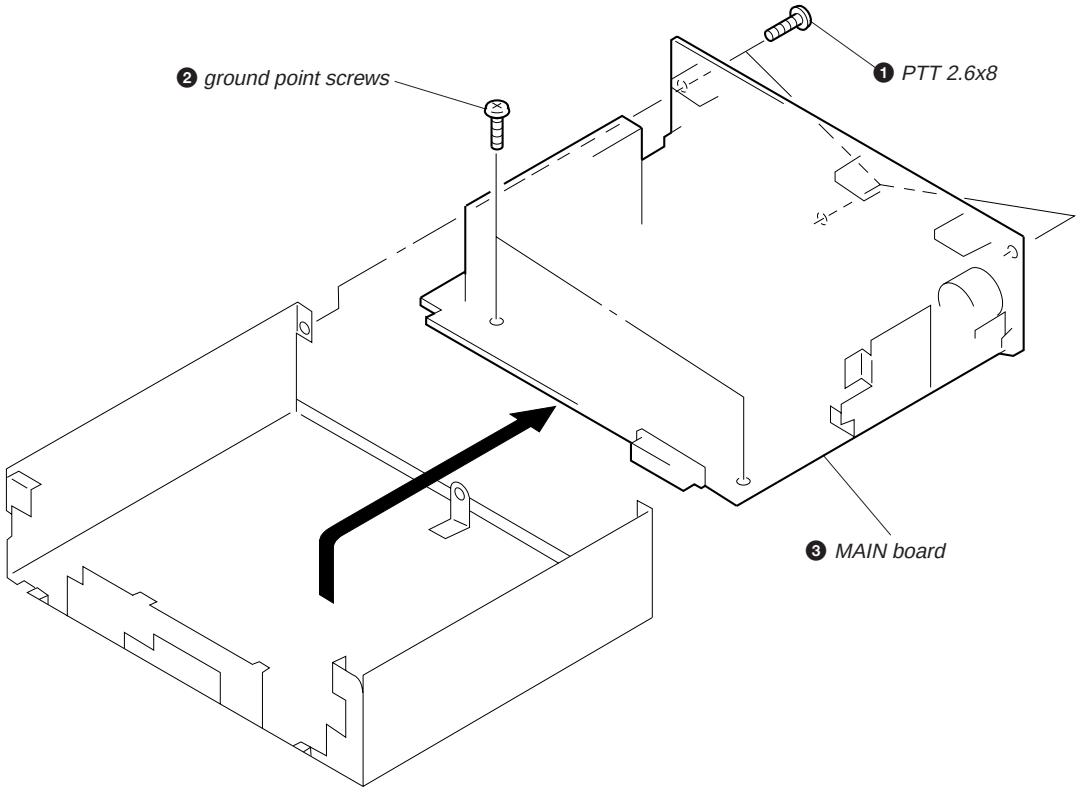
2-3. SUB PANEL



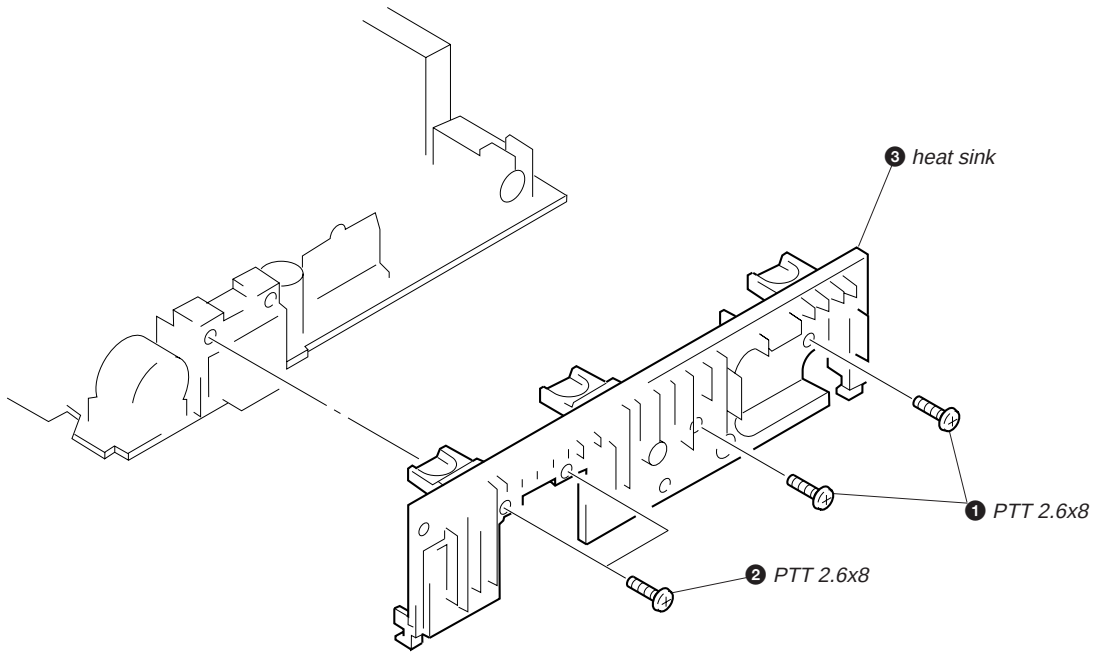
2-4. CD MECHANISM BLOCK



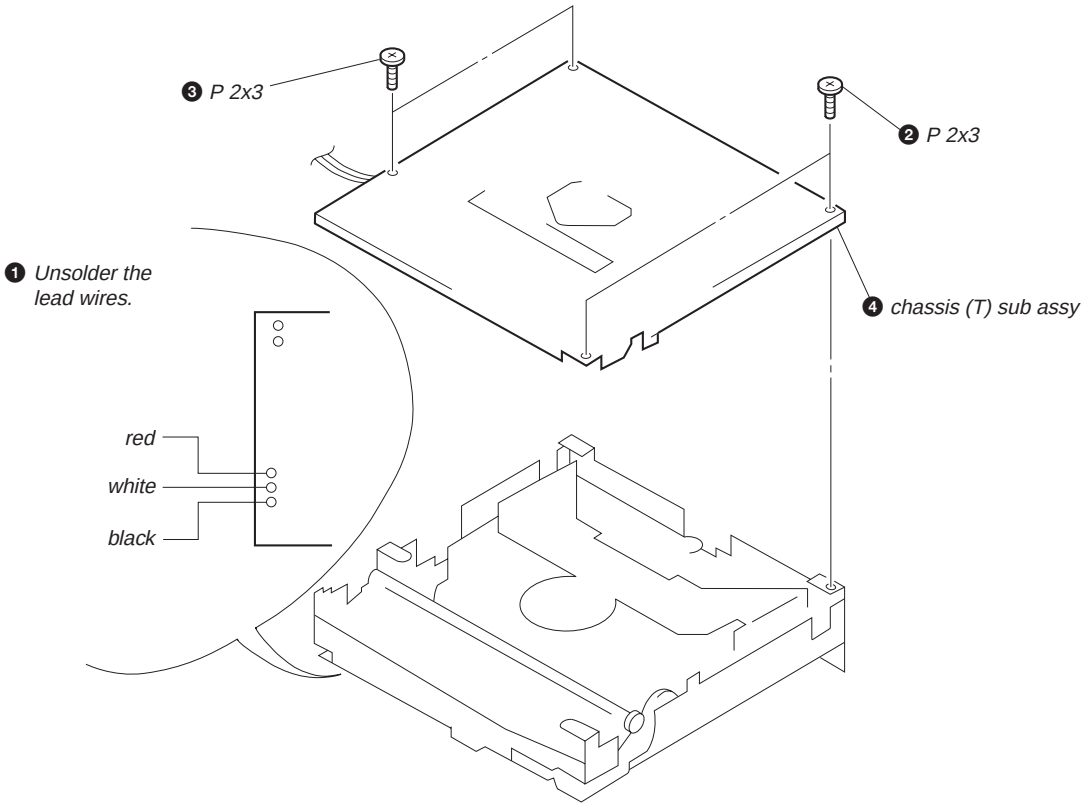
2-5. MAIN BOARD



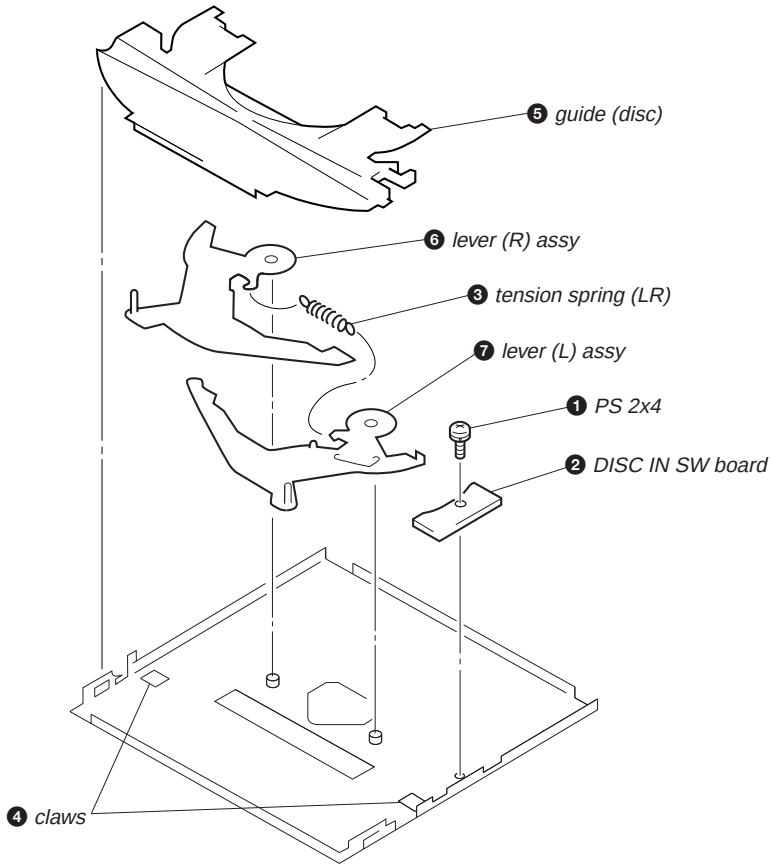
2-6. HEAT SINK



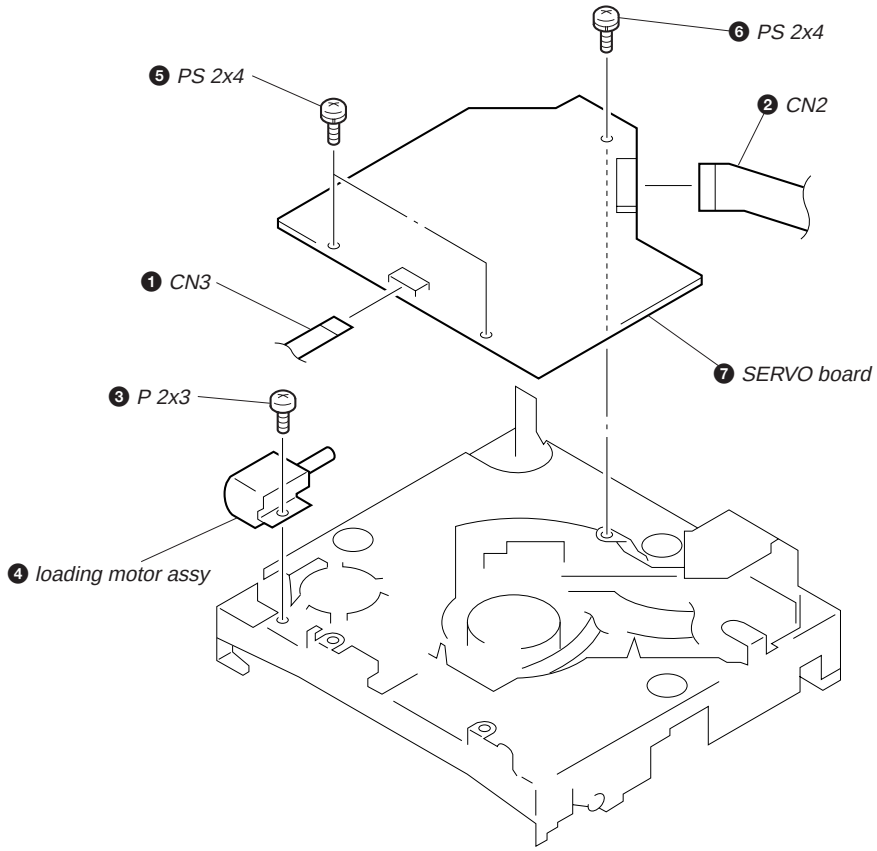
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY



2-9. SERVO BOARD



2-10. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

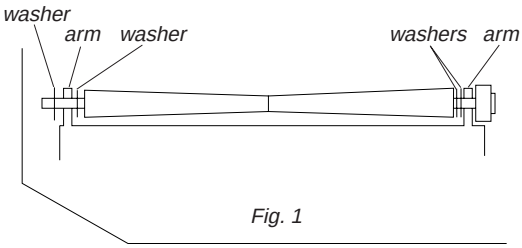
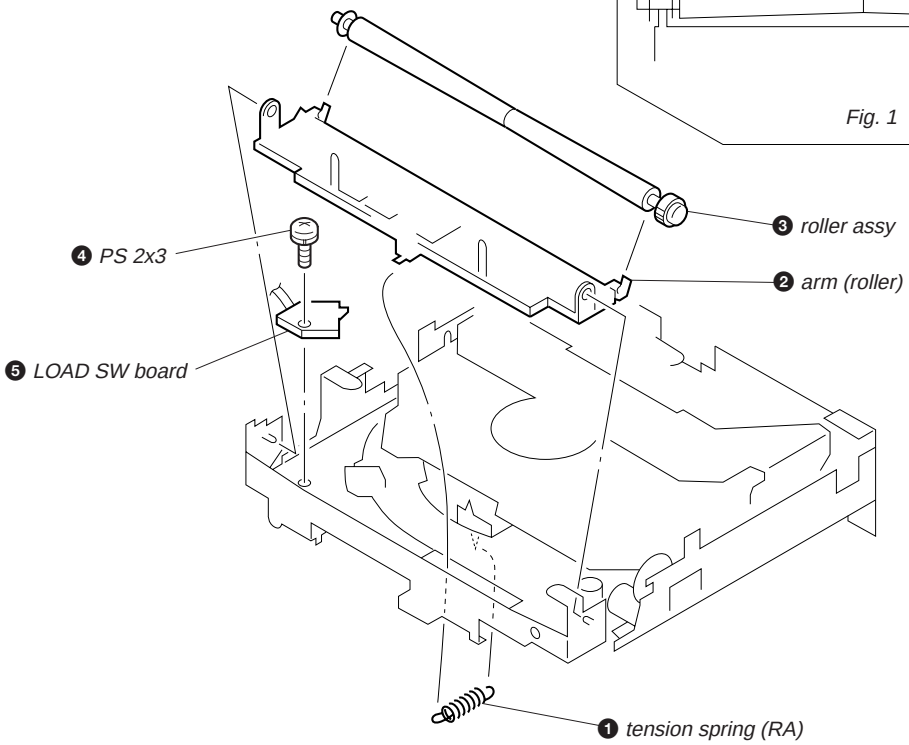
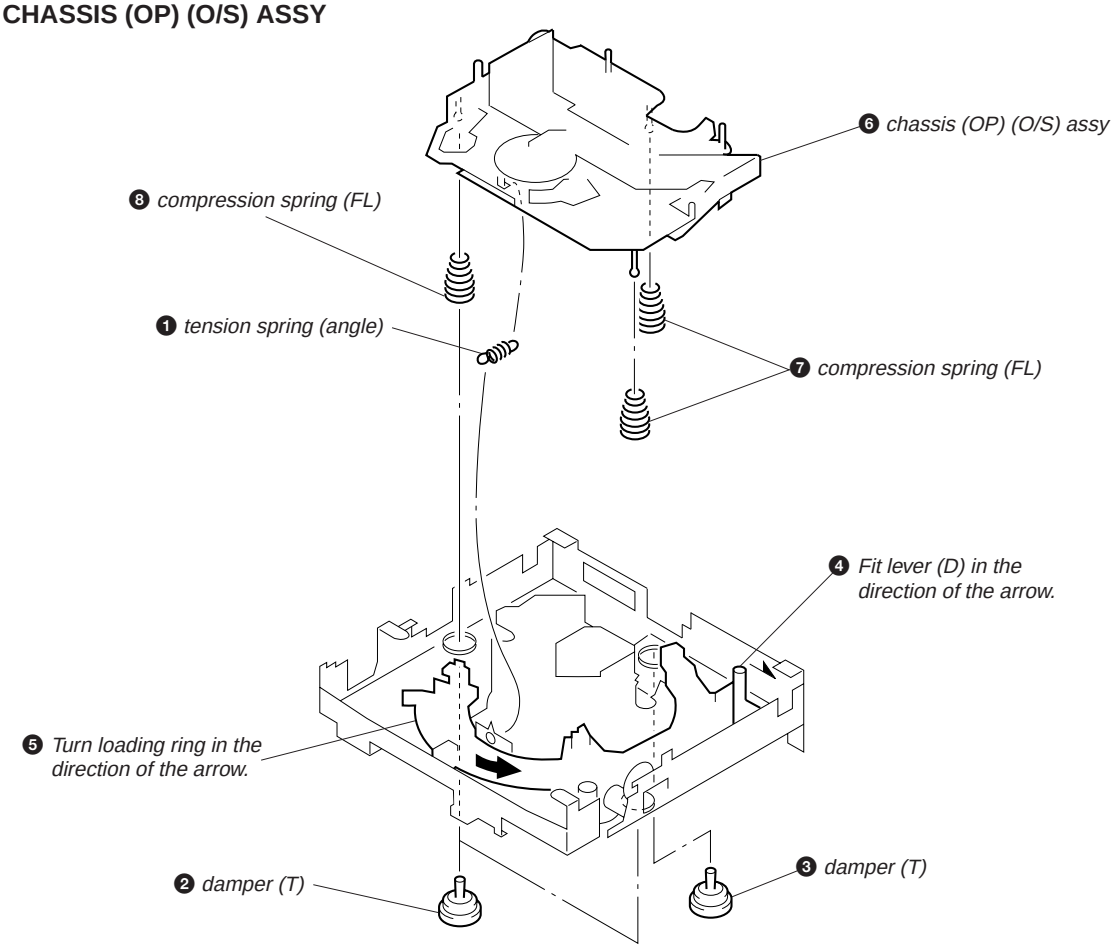


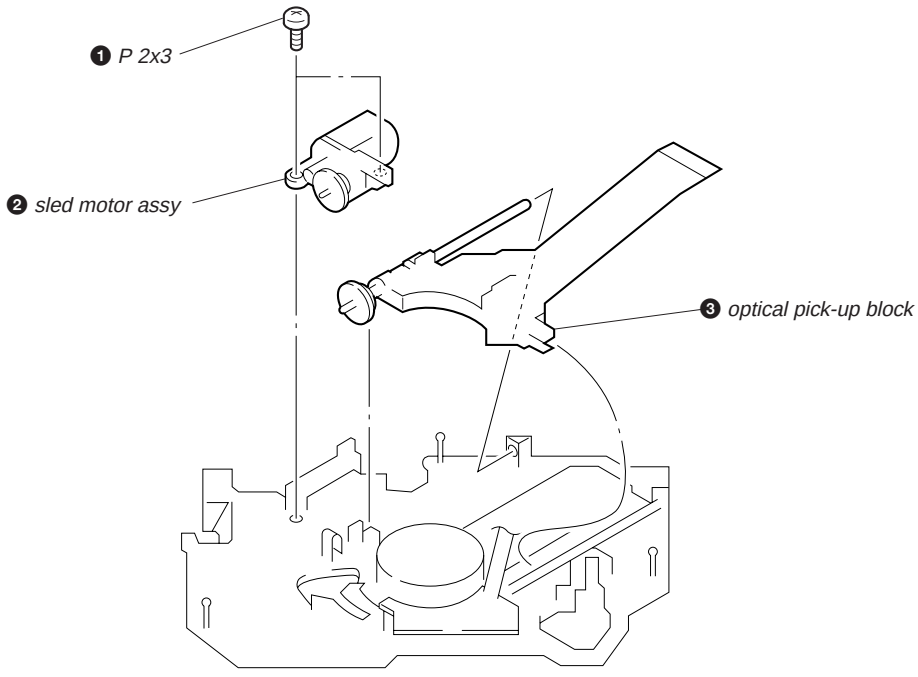
Fig. 1



2-11. CHASSIS (OP) (O/S) ASSY


❻ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❼ compression spring (FL)
❹ Fit lever (D) in the direction of the arrow.
❺ Turn loading ring in the direction of the arrow.
❷ damper (T)
❸ damper (T)

2-12. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/ Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>
1. Push the [OFF] button.

TUNER SECTION 0 dB = 1 µV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

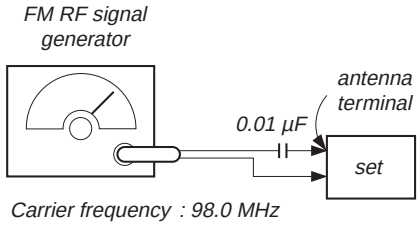
Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

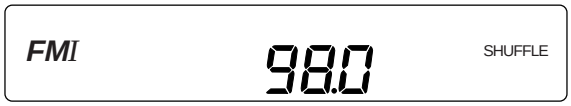
SOURCE button : FMI



Carrier frequency : 98.0 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

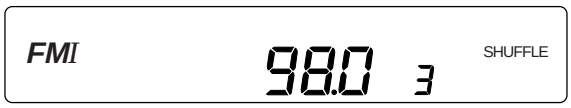
Procedure :
1. Set to the test mode.
2. Push the [SOURCE] button and set to FMI.

Display



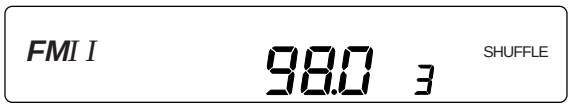
3. Push the preset [3] button.

Display



4. Adjust with the volume RV2 on TU1 so that the "FMI" indication turns to "FMI I" indication on the display window. But, in case of already indicated "FMI I", turn the RV2 so that put out light "I" indication and adjustment.

Display

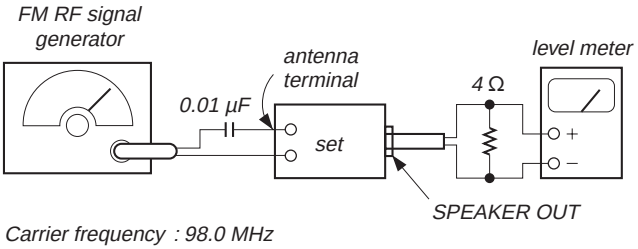


Adjustment Location : See page 17.

FM Noise Focus Adjustment

Setting :

SOURCE button : FMI



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : stereo
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure :

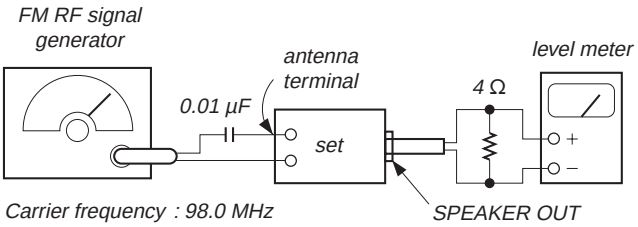
1. Tune the 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A) – 30 ± 1 dB then signal generator input set to – 19 dB.

Adjustment Location : See page 17.

FM Stereo Separation Adjustment

Setting :

SOURCE button : FMI



Carrier frequency : 98.0 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 20 kHz deviation (26.5%)
sub : 1 kHz, 20 kHz deviation (26.5%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

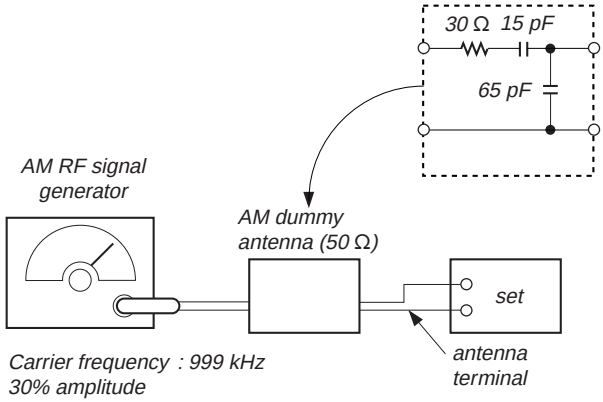
Specification : Separation more than 25 dB

Adjustment Location : See page 17.

MW Auto Scan/Stop Level Adjustment

Setting :

SOURCE → MODE button : MW



Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)

Procedure :

1. Set to the test mode. (See page 15.)
2. Push the SOURCE button.
3. Push the MODE button and set to MW.

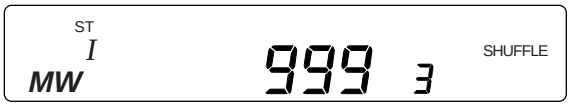
Display

4. Push the preset 3 button.

Display

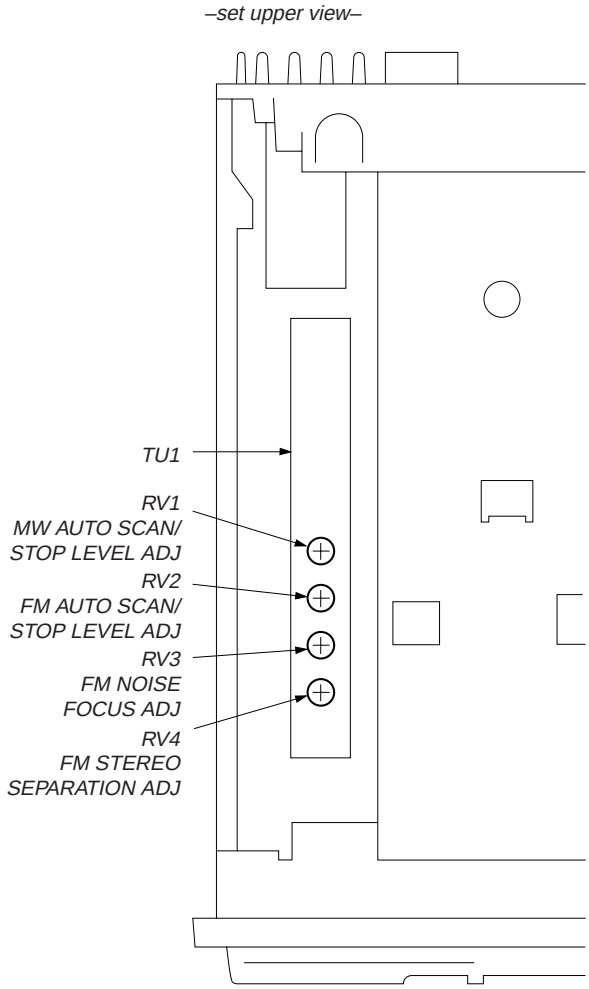
5. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MWI" indication on the display window.
   But, in case of already indicated "MWI", turn the RV1 so that put out light "I" indication and adjustment.

Display



Adjustment Location : See page 17.

Adjustment Location : tuner unit (TU1)

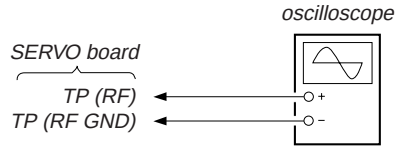


CD SECTION

Note :
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

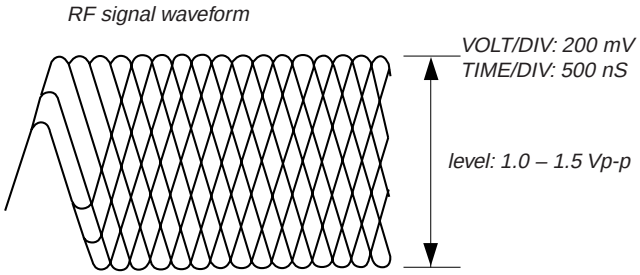
Focus Bias Adjustment

Setting : This adjustment is performed with the set placed horizontally.



Procedure :
1. Connect an oscilloscope between TP (RF) and TP (RF GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S900) on the main board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the sharp "◇" can be clearly distinguished at the center of the waveform.



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location : servo board

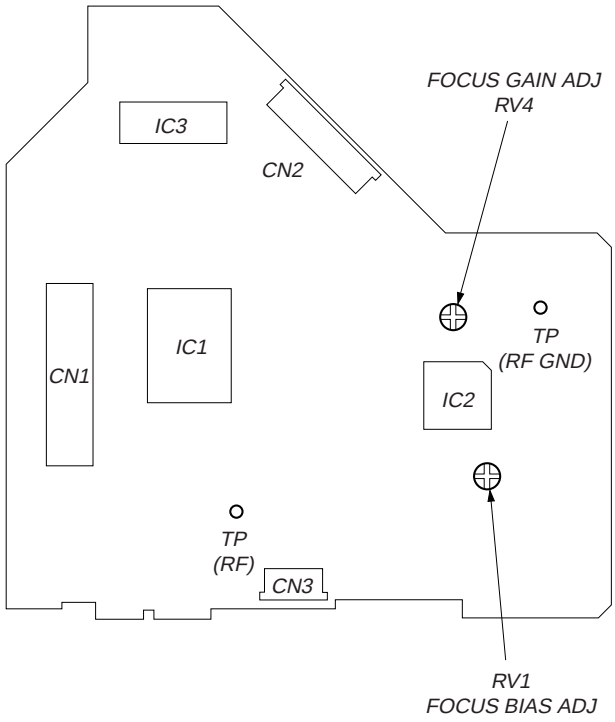
Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:
- Optical pick-up
- RV4

Procedure :
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low :
  Focus does not function and no music is selected.
- If the gain is too high :
  Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location : servo board

Adjustment Location : servo board (component side)



SECTION 4
DIAGRAMS

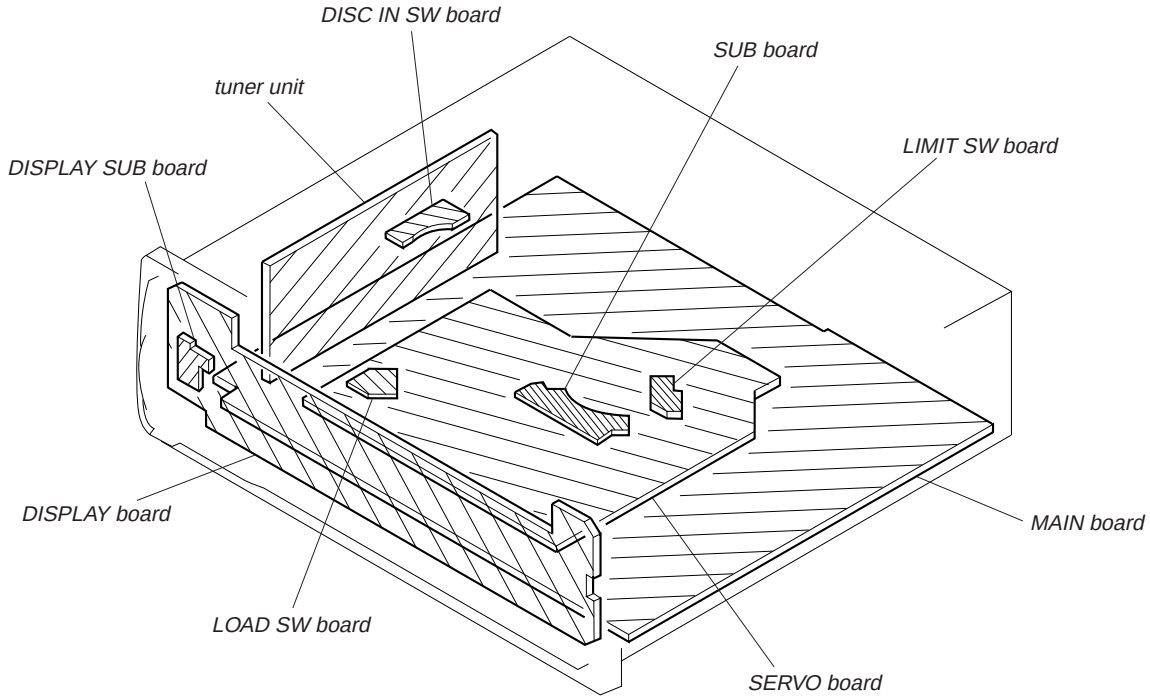
4-1. IC PIN DESCRIPTION

• IC800 µPD17017GF-B29-3B9 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	CD SO/VOL DATA	O	CD serial data/electric volume serial data output pin
2	VOL CLK	O	Electric volume serial clock output pin
3	SENSE	I	CD sens signal input pin
4	$\overline{ST}$/MONO	O	FM/AM select pin
5	$\overline{ACC}$	I	Accessory power (ACC) voltage detection pin
6	FOK	I	Focus OK signal input pin
7	CD-LAT	O	CD latch signal output pin
8	SQCKO	O	Sub code Q data read clock output pin
9	CD RST	O	CD reset signal output pin
10	SQ SI	I	Sub code Q data input pin
11	NC	—	Not used. (Connect to GND.)
12	SCOR	I	Sub code sync detection signal input pin
13	BUIN	I	Power for operation (BATT) voltage detection pin
14	CDMON	O	Mechanism deck section power supply control pin
15	ILL ON	O	Illumination power supply control pin
16	LD ON	O	Laser power ON/OFF control pin
17	FM/$\overline{AM}$	O	FM/AM select pin
18	SEEKOUT	O	SEEK OUT signal output pin
19	PW-ON	O	System power supply control pin
20	LCL/$\overline{DX}$	O	LOCAL/DX select pin
21	BEEP	O	Beep sound output pin
22	VOL CE	O	Electric volume serial chip enable output pin
23	LM EJ	O	Loading motor control pin (Eject direction)
24	LM LOD	O	Loading motor control pin (Loading direction)
25	MUTE	O	Audio mute signal output pin
26	FM IF	I	FM IF counter input pin
27	AM IF	I	AM IF counter input pin
28	$\overline{NOSE\ SW}$	I	Front panel with/without detection input pin
29	SD/ST	I	During SEEK operation, station detection input pin.
30	VDD1	—	Power supply pin
31	VCOL	I	AM OSC signal input pin
32	VCOH	I	FM OSC signal input pin
33	GND	—	GND
34	XOUT	O	System clock output pin (4.5 MHz)
35	XIN	I	System clock input pin (4.5 MHz)
36	EO0	O	Charge pump output pin
37	EO1	—	Not used.
38	NC	—	Not used. (Fixed at “H”.)
39, 40	NC	—	Not used.
41	VDD2	—	Power supply pin
42	EMPH.O	O	De-emphasis control pin
43, 44	COM1, COM0	O	Not used.
45	LCDSO	O	LCD serial data output pin
46	LCDCKO	O	LCD serial clock output pin
47	LCDINH	O	LCD blank display control output pin
48	LCDCE	O	LCD chip enable output pin

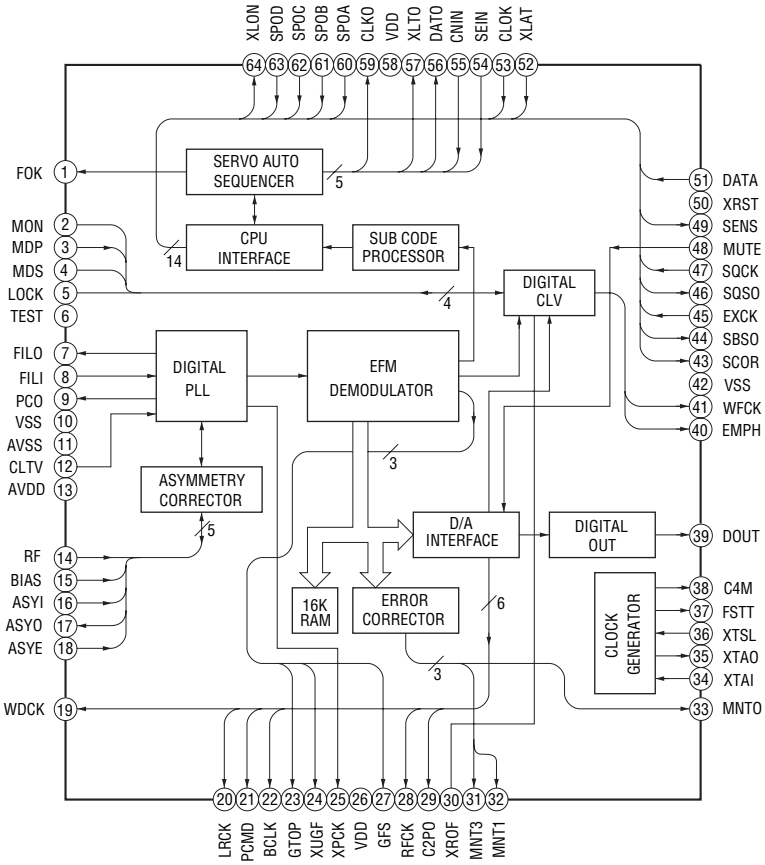
Pin No.	Pin Name	I/O	Pin Description
49 – 63	LCD25 – LCD11	O	Not used.
64	LCD10	O	At key return, signal output pin
65	TEST SW(LCD9)	I/O	Test mode direct settig input
66	BAND SW(LCD8)	I/O	Not used.
67	AREA2 SW(LCD7)	I	Destination setting pin
68	AREA1 SW(LCD6)	I	Destination setting pin
69, 70	LCD5, LCD4	O	Not used.
71	SELF SW(LCD3)	I/O	SELF SW input/LCD segment signal output pin
72	IN SW(LCD2)	I/O	DISC IN SW input/LCD segment signal output pin
73	L SW(LCD1)	I/O	LIMIT SW input/LCD segment signal output pin
74	D SW(LCD0)	I/O	DOWN SW input/LCD segment signal output pin
75	KEY-RETURN	I	Key return signal input pin
76 – 78	AD2 – AD0	I	Key input pin (A/D input)
79	AMP MUTE	O	Power amplifier mute signal output pin
80	CD CKO	O	CD serial clock output pin

4-2. CIRCUIT BOARDS LOCATION

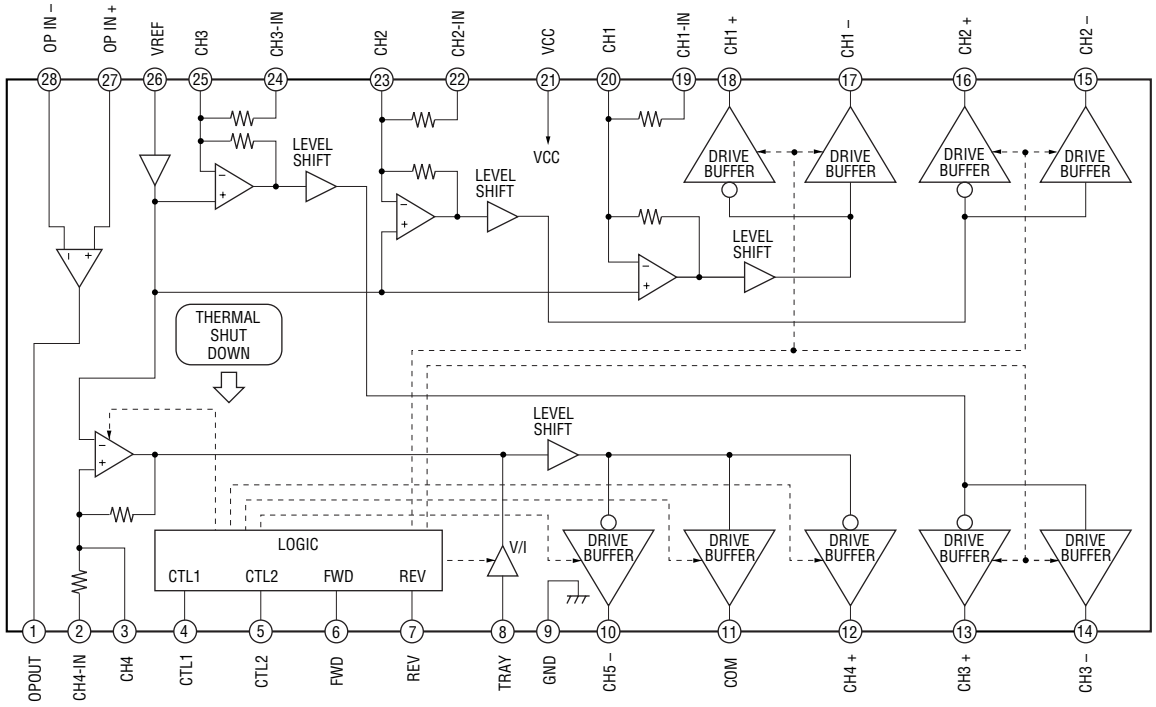


• **IC Block Diagrams**

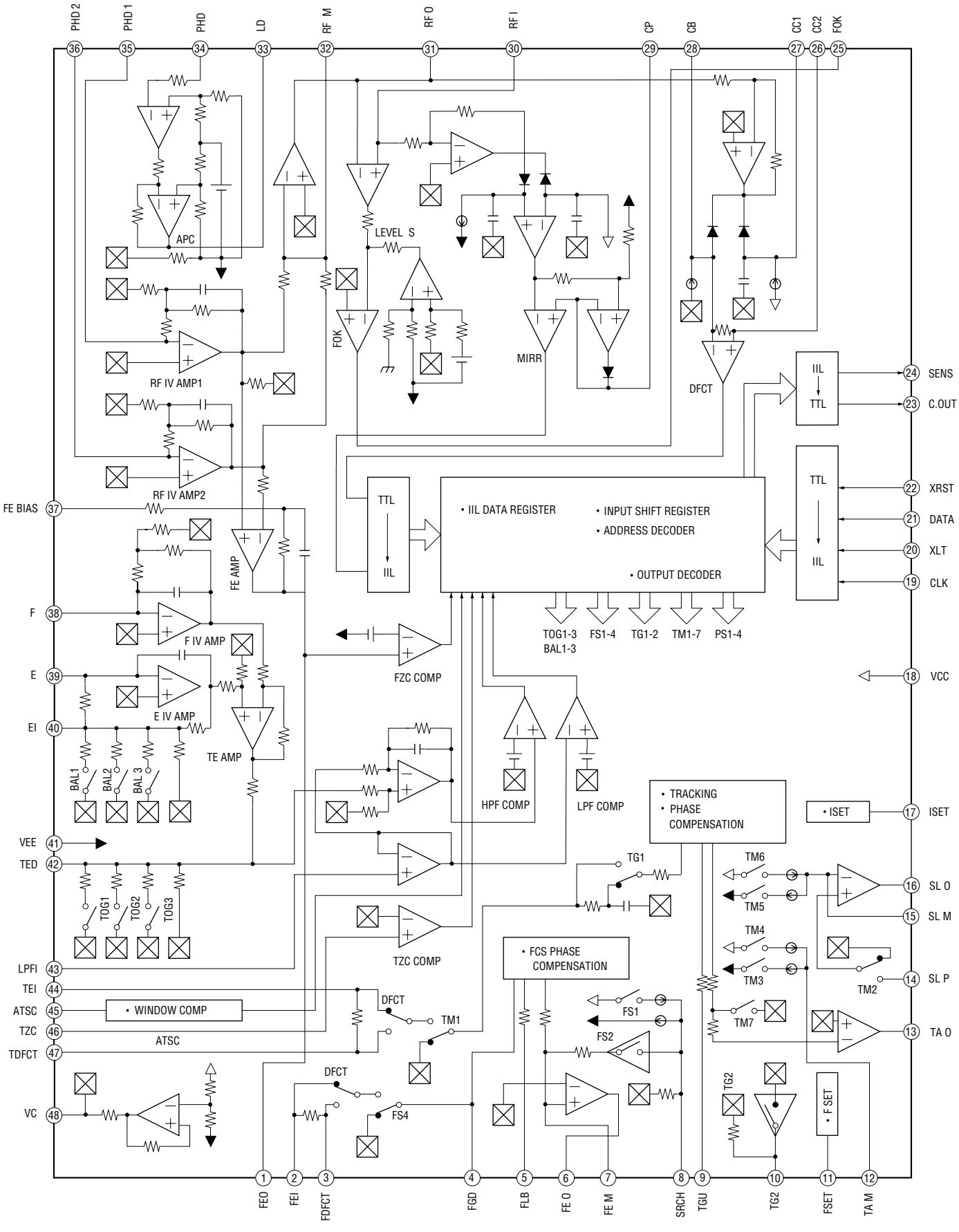
IC1 CXD2507AQ



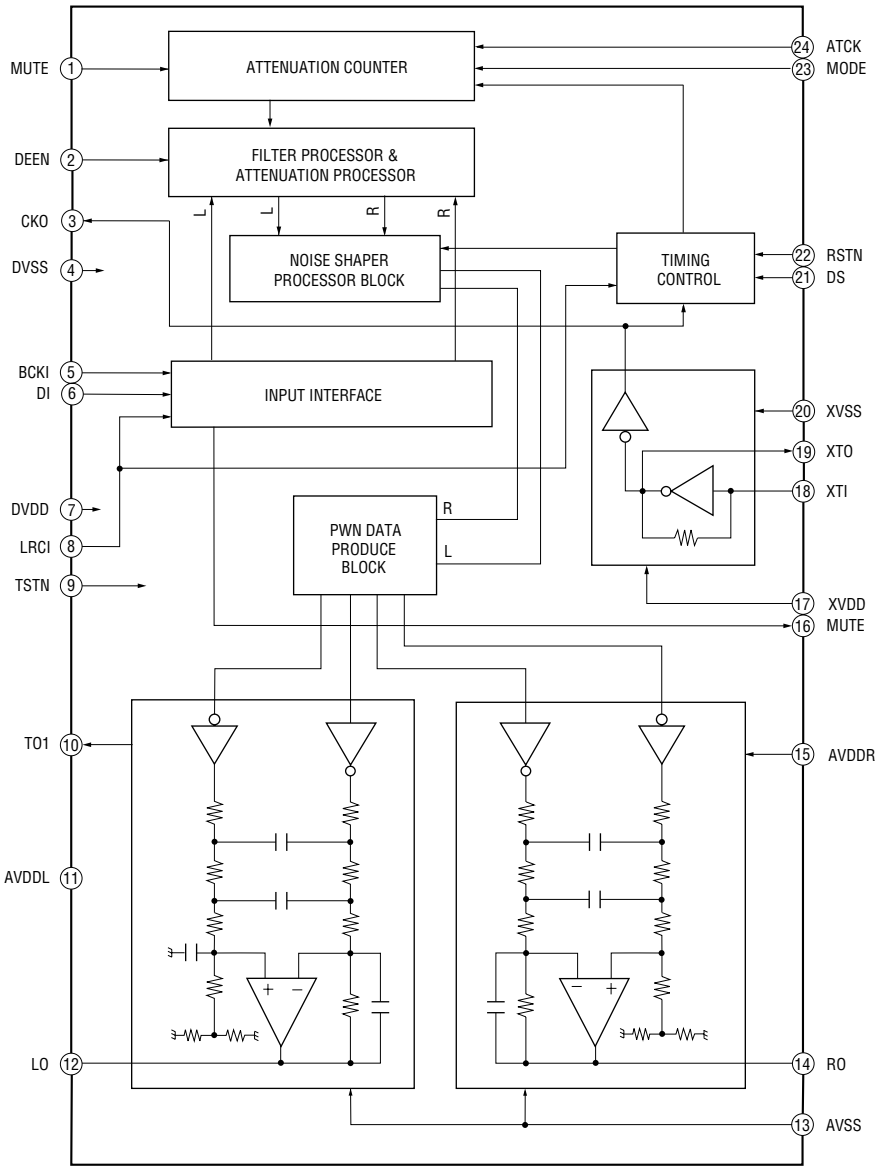
IC3 BA6796FP-T1


OP IN – OP IN + VREF CH3 CH3-IN CH2 CH2-IN VCC CH1 CH1-IN CH1 + CH1 – CH2 + CH2 –
28 27 26 25 24 23 22 21 20 19 18 17 16 15
LEVEL SHIFT
VCC
DRIVE BUFFER
THERMAL SHUT DOWN
LOGIC
CTL1 CTL2 FWD REV
V/I
1 2 3 4 5 6 7 8 9 10 11 12 13 14
OPOUT CH4-IN CH4 CTL1 CTL2 FWD REV TRAY GND CH5 – COM CH4 + CH3 + CH3 –

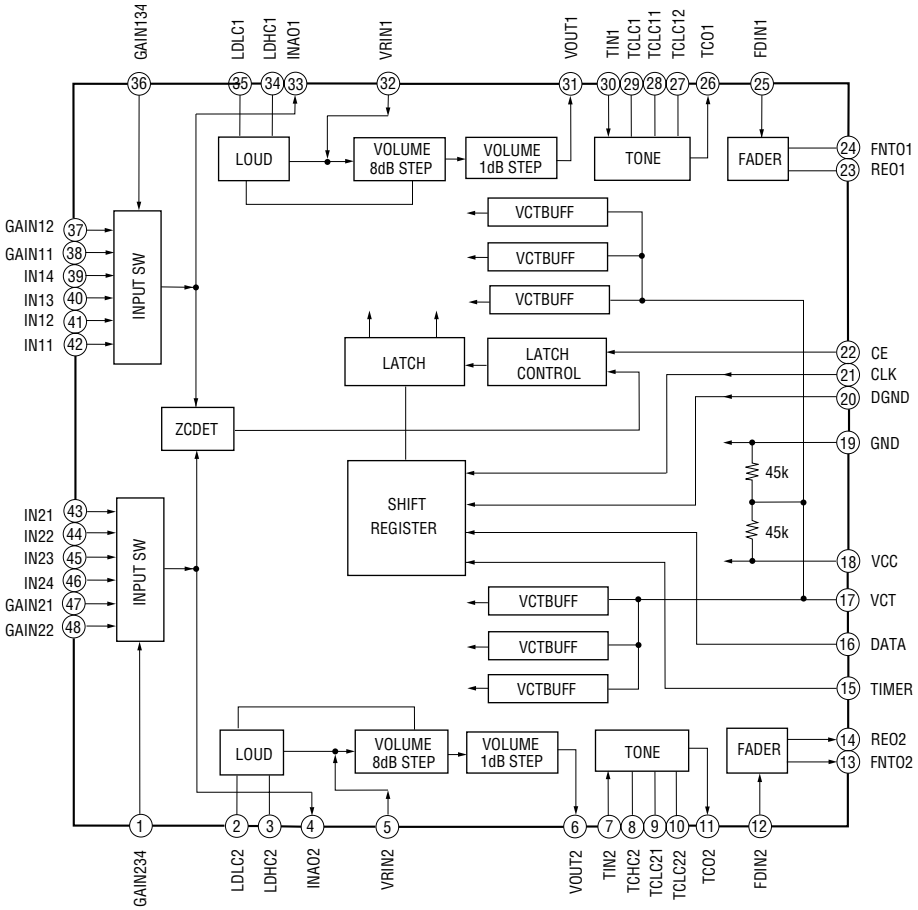
IC2 CXA1782BQ



IC700 SM5877AM-E2



IC400 CXA1946AQ-T6

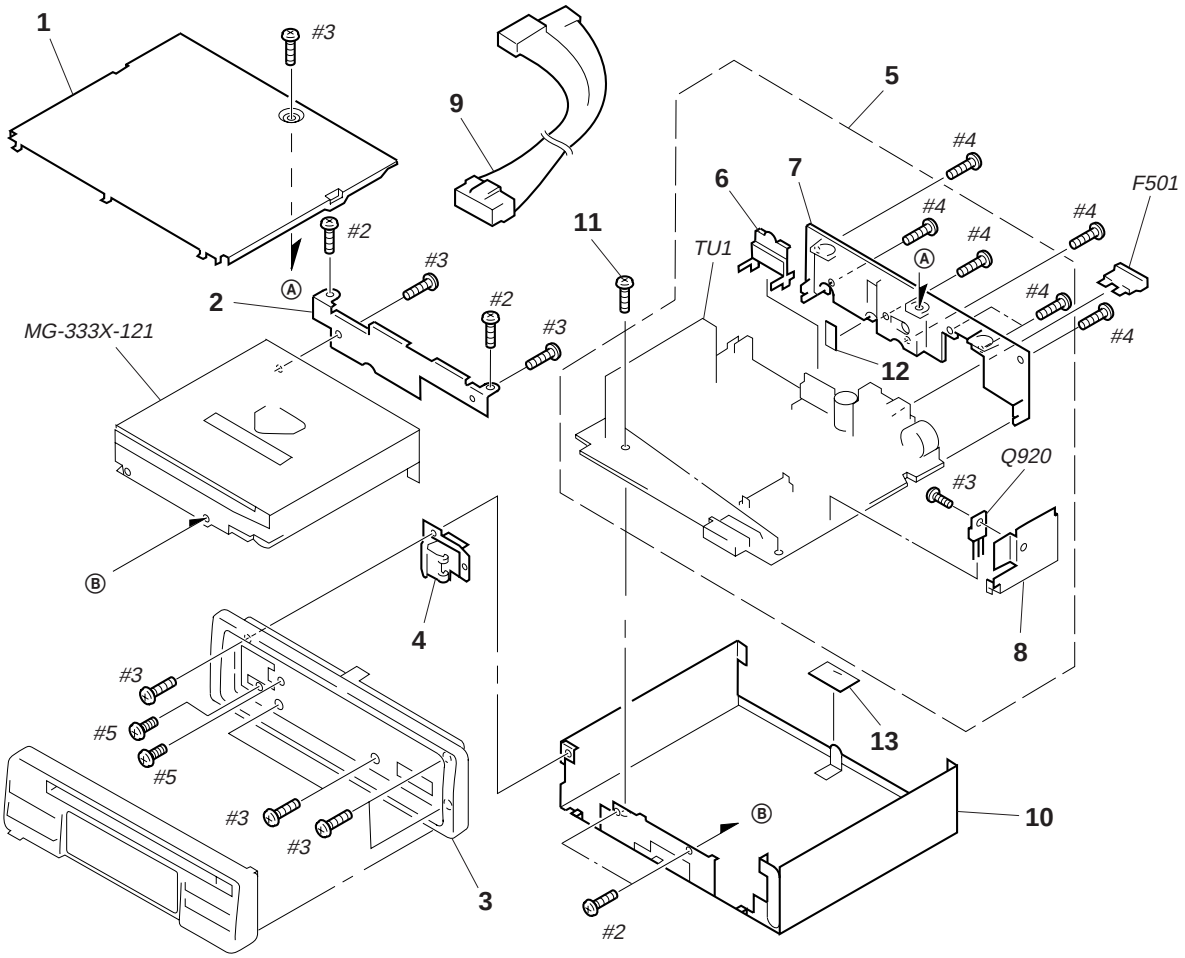


SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  G : German model
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

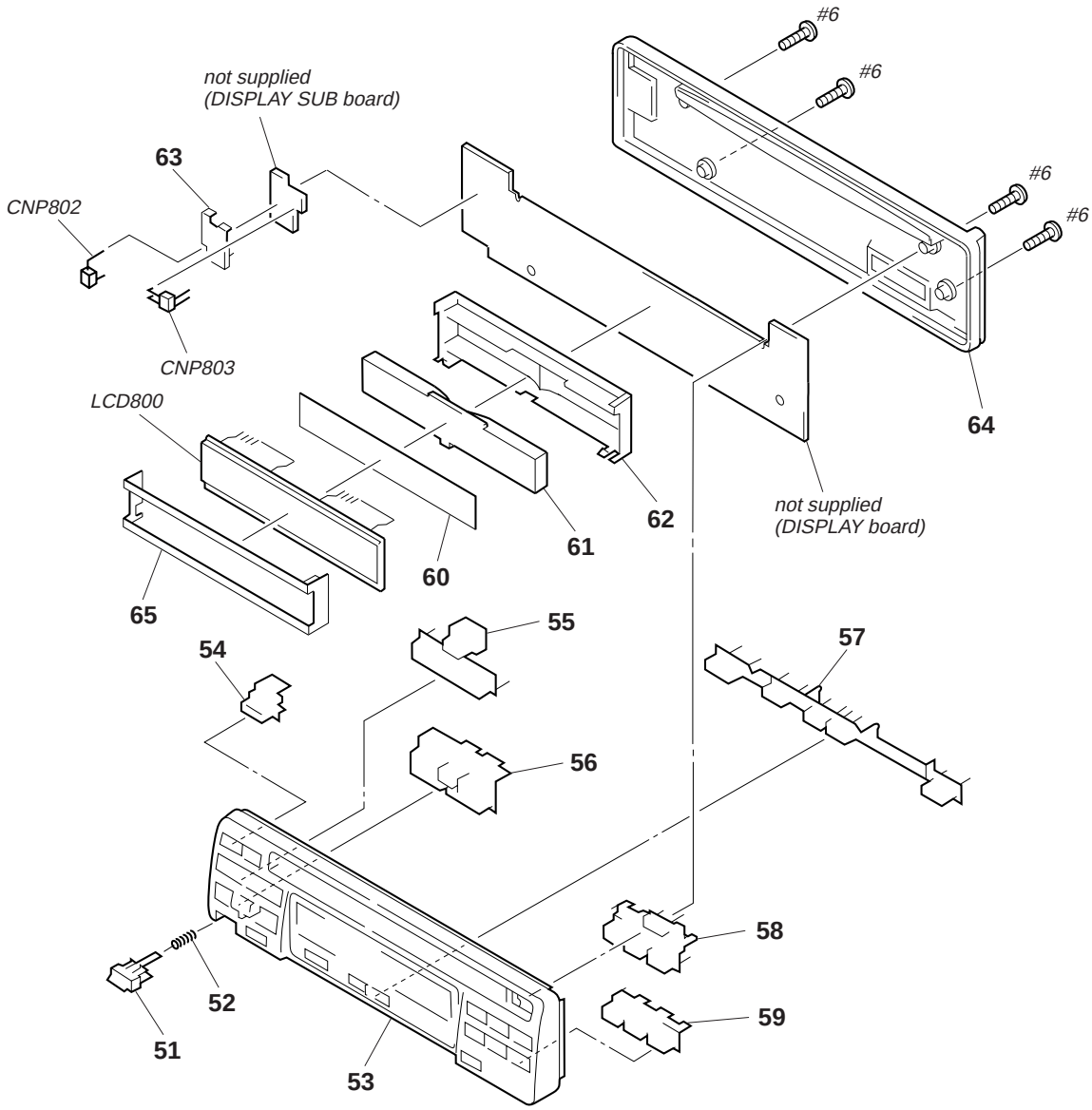
5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	X-3372-357-1	COVER ASSY	
* 2	3-009-349-01	BRACKET (M/D)	
3	X-3373-133-1	PANEL (1) ASSY, SUB	
4	X-3367-636-1	LOCK ASSY	
* 5	A-3294-233-A	MAIN BOARD, COMPLETE (G)	
* 5	A-3294-240-A	MAIN BOARD, COMPLETE (AEP,UK)	
* 6	3-931-260-01	BRACKET (IC)	
* 7	3-009-844-21	HEAT SINK	
* 8	3-920-529-01	BRACKET (REG) (IC)	

Ref. No.	Part No.	Description	Remark
9	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
* 10	3-009-840-21	CHASSIS (MAIN)	
11	3-922-535-11	SCREW (+BTT)	
* 12	3-014-040-01	SHEET (HS)	
* 13	3-013-744-01	SHEET (INSULATING.A)	
F501	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
Q920	8-729-019-00	TRANSISTOR 2SD2394-G	
TU1	1-693-373-11	TUNER UNIT	

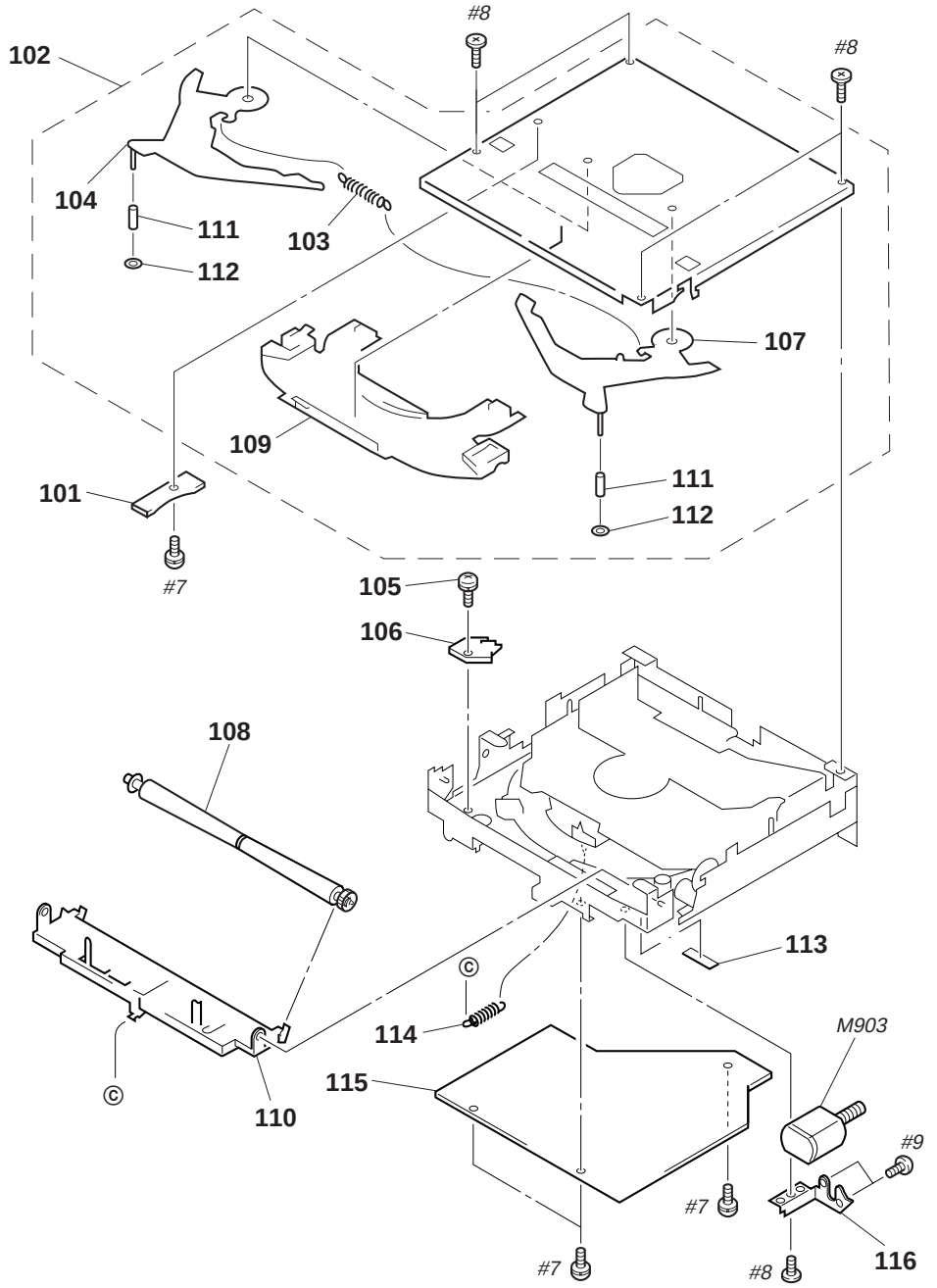
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-009-346-11	BUTTON (RELEASE)	
52	3-375-373-01	SPRING (RELEASE)	
53	X-3373-144-1	PANEL SUB ASSY, FRONT	
54	3-009-365-01	BUTTON (SOURCE)	
55	3-009-362-01	BUTTON (SEEK/AMS)	
56	3-009-364-01	BUTTON (SEL)	
57	3-009-363-01	BUTTON (OFF)	
58	3-009-361-01	BUTTON (1-3)	
59	3-009-345-01	BUTTON (4-6)	

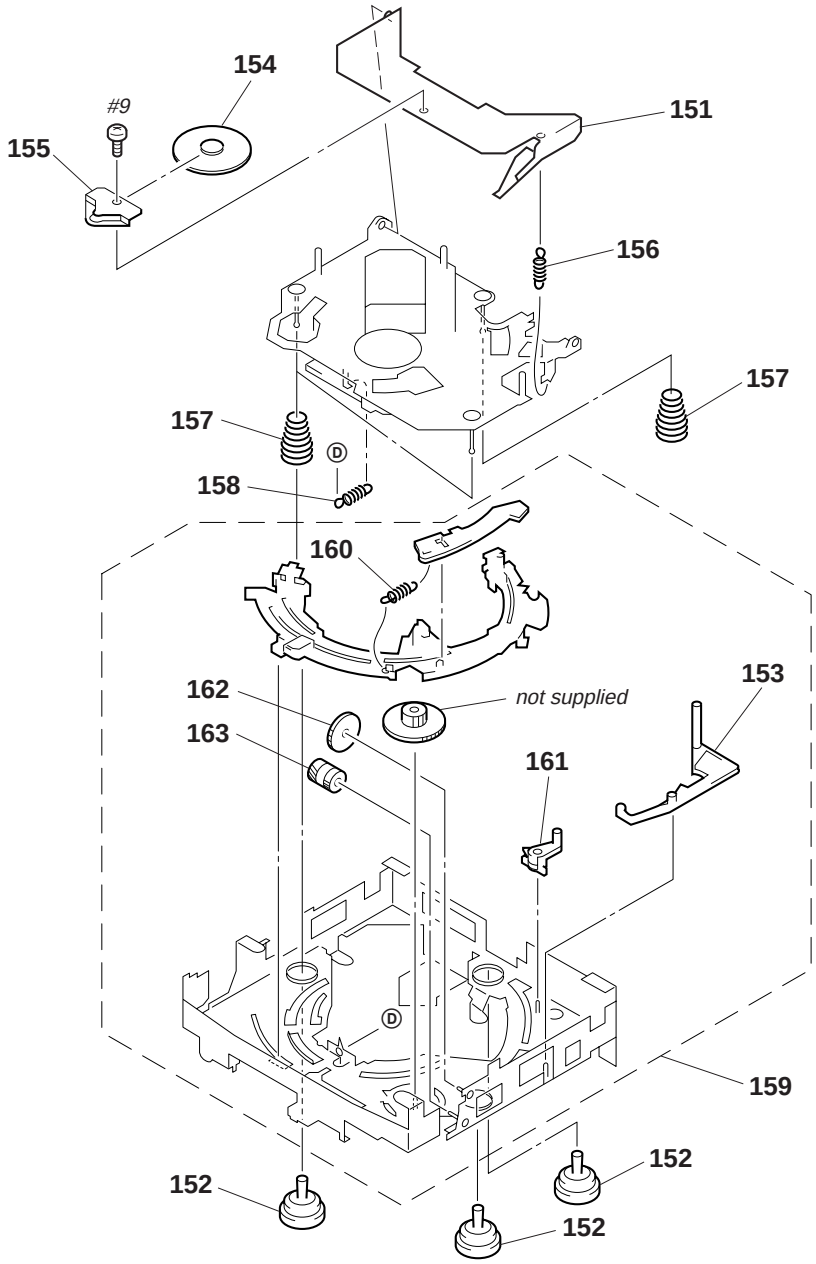
Ref. No.	Part No.	Description	Remark
* 60	3-009-341-01	SHEET (LCD)	
* 61	3-009-335-01	PLATE (LCD), LIGHT GUIDE	
* 62	3-009-337-01	HOLDER (LCD)	
* 63	3-009-369-01	BRACKET (PCB)	
64	3-009-359-01	PANEL, FRONT BACK	
65	3-014-202-12	BRACKET (LCD)	
* CNP802	1-779-130-11	PIN, CONNECTOR 1P	
* CNP803	1-779-131-11	PIN, CONNECTOR 2P	
LCD800	1-801-674-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-333X-121)



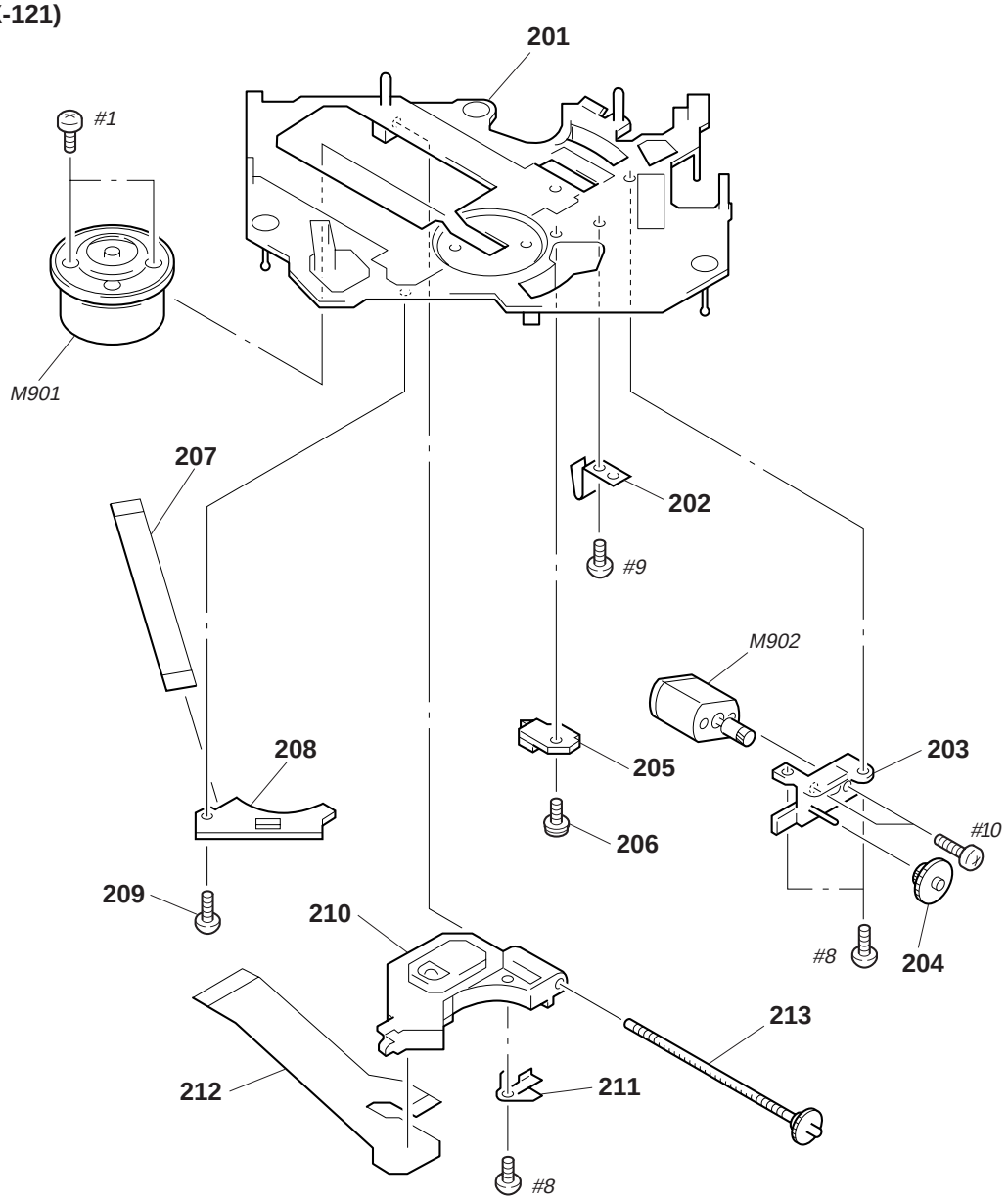
Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD	
* 102	A-3291-816-A	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), + PS	
* 106	1-659-837-11	LOAD SW BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3291-672-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-01	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3309-227-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	

5-4. CD MECHANISM SECTION (2)
(MG-333X-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	
158	3-931-914-01	SPRING (ANGLE), TENSION	
* 159	A-3291-677-A	CHASSIS (M) ASSY, COMPLETE	
160	3-931-883-01	SPRING (TR), TENSION	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-01	WHEEL (U), WORM	

5-5. CD MECHANISM SECTION (3)
(MG-333X-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 201	X-3371-503-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT SW BOARD	
206	3-338-737-01	SCREW (2X3), + PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠210	8-848-402-02	PICK-UP, OPTICAL KSS-520A/J2NP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3371-664-1	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	

SECTION 6
ELECTRICAL PARTS LIST

DISC IN SW **DISPLAY**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Abbreviation
  G : German model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISC IN SW BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-11	SWITCH, PUSH (DISC IN)			
SW2	1-572-288-11	SWITCH, PUSH (SELF)			
**********					
		DISPLAY BOARD			
		**********			
*	3-009-335-01	PLATE (LCD), LIGHT GUIDE			
*	3-009-337-01	HOLDER (LCD)			
*	3-009-341-01	SHEET (LCD)			
*	3-009-369-01	BRACKET (PCB)			
*	3-014-202-12	BRACKET (LCD)			
		< CAPACITOR >			
C851	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C852	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C853	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CNP801	1-764-423-11	PIN, CONNECTOR 12P			
* CNP802	1-779-130-11	PIN, CONNECTOR 1P			
* CNP803	1-779-131-11	PIN, CONNECTOR 2P			
		< DIODE >			
D851	8-719-976-99	DIODE DTZ5.1B			
D852	8-719-052-61	LED SLR-342PGT31 (DSPL) (GREEN)			
D852	8-719-059-92	LED SLR-342YYT31 (DSPL) (AMBER)			
D853	8-719-052-61	LED SLR-342PGT31 (SENS) (GREEN)			
D853	8-719-059-92	LED SLR-342YYT31 (SENS) (AMBER)			
D854	8-719-052-61	LED SLR-342PGT31 (A.MEM) (GREEN)			
D854	8-719-059-92	LED SLR-342YYT31 (A.MEM) (AMBER)			
D855	8-719-064-19	LED SLR-342PG (OFF) (GREEN)			
D855	8-719-064-20	LED SLR-342YY (OFF) (AMBER)			
D856	8-719-052-61	LED SLR-342PGT31 (MUTE) (GREEN)			
D856	8-719-059-92	LED SLR-342YYT31 (MUTE) (AMBER)			
D857	8-719-052-61	LED SLR-342PGT31 (SEL) (GREEN)			
D857	8-719-059-92	LED SLR-342YYT31 (SEL) (AMBER)			
D860	8-719-052-61	LED SLR-342PGT31 (+) (GREEN)			

Ref. No.	Part No.	Description	Remark
D860	8-719-059-92	LED SLR-342YYT31 (+) (AMBER)	
D861	8-719-052-61	LED SLR-342PGT31 (+ ▶▶ ▶▶I (SEEK/AMS)) (GREEN)	
D861	8-719-059-92	LED SLR-342YYT31 (+ ▶▶ ▶▶I (SEEK/AMS)) (AMBER)	
D862	8-719-052-61	LED SLR-342PGT31 (MODE) (GREEN)	
D862	8-719-059-92	LED SLR-342YYT31 (MODE) (AMBER)	
D863	8-719-052-61	LED SLR-342PGT31 (SOURCE) (GREEN)	
D863	8-719-059-92	LED SLR-342YYT31 (SOURCE) (AMBER)	
D864	8-719-052-61	LED SLR-342PGT31 (1/INTRO) (GREEN)	
D864	8-719-059-92	LED SLR-342YYT31 (1/INTRO) (AMBER)	
D865	8-719-052-61	LED SLR-342PGT31 (2/REPEAT) (GREEN)	
D865	8-719-059-92	LED SLR-342YYT31 (2/REPEAT) (AMBER)	
D866	8-719-052-61	LED SLR-342PGT31 (⏏) (GREEN)	
D866	8-719-059-92	LED SLR-342YYT31 (⏏) (AMBER)	
D867	8-719-052-61	LED SLR-342PGT31 (3/SHUF) (GREEN)	
D867	8-719-059-92	LED SLR-342YYT31 (3/SHUF) (AMBER)	
D868	8-719-052-61	LED SLR-342PGT31 (4) (GREEN)	
D868	8-719-059-92	LED SLR-342YYT31 (4) (AMBER)	
D869	8-719-052-61	LED SLR-342PGT31 (5) (GREEN)	
D869	8-719-059-92	LED SLR-342YYT31 (5) (AMBER)	
D870	8-719-052-61	LED SLR-342PGT31 (6) (GREEN)	
D870	8-719-059-92	LED SLR-342YYT31 (6) (AMBER)	
D872	8-719-105-99	DIODE RD6.2M-B1	
D873	8-719-105-99	DIODE RD6.2M-B1	
D874	8-719-105-99	DIODE RD6.2M-B1	
D875	8-719-105-99	DIODE RD6.2M-B1	
		< IC >	
IC801	8-759-369-90	IC LC75822ED	
		< JUMPER RESISTOR >	
JR851	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR852	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR853	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR854	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR855	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR856	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR857	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR858	1-216-296-00	CONDUCTOR, CHIP (3216)	

DISPLAY | DISPLAY SUB | LIMIT SW | LOAD SW

Ref. No.	Part No.	Description				Remark
JR859	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR860	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR861	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR862	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR863	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR864	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR865	1-216-296-00	CONDUCTOR, CHIP	(3216)			
JR866	1-216-296-00	CONDUCTOR, CHIP	(3216)			
		< LIQUID CRYSTAL DISPLAY >				
LCD800	1-801-674-11	DISPLAY PANEL, LIQUID CRYSTAL				
		< PILOT LAMP >				
PL801	1-517-677-11	LAMP, PILOT				
PL802	1-517-677-11	LAMP, PILOT				
		< RESISTOR >				
R846	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R847	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R848	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R849	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R850	1-216-193-00	METAL GLAZE	620	5%	1/8W	
R851	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R852	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R853	1-247-808-11	CARBON	110	5%	1/4W	
R854	1-247-808-11	CARBON	110	5%	1/4W	
R855	1-247-808-11	CARBON	110	5%	1/4W	
R856	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R857	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R858	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R859	1-216-197-11	METAL GLAZE	910	5%	1/8W	
R860	1-216-193-00	METAL GLAZE	620	5%	1/8W	
R861	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R862	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R863	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R864	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R865	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R871	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R872	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R873	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R874	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R875	1-249-429-11	CARBON	10K	5%	1/4W	
R876	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R877	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R878	1-247-843-11	CARBON	3.3K	5%	1/4W	
R879	1-249-426-11	CARBON	5.6K	5%	1/4W	
R880	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R881	1-216-083-00	METAL CHIP	27K	5%	1/10W	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S801	1-572-704-31	SWITCH, KEY BOARD (OFF)	
S802	1-572-704-31	SWITCH, KEY BOARD (5)	
S803	1-572-704-31	SWITCH, KEY BOARD (4)	
S804	1-572-704-31	SWITCH, KEY BOARD (2/REPEAT)	
S805	1-572-704-31	SWITCH, KEY BOARD (3/SHUF)	
S806	1-572-704-31	SWITCH, KEY BOARD (6)	
S808	1-572-704-31	SWITCH, KEY BOARD (⏏)	
S809	1-572-704-31	SWITCH, KEY BOARD (1/INTRO)	
S810	1-572-704-31	SWITCH, KEY BOARD (A.MEM)	
S811	1-572-704-31	SWITCH, KEY BOARD (SENS)	
S812	1-572-704-31	SWITCH, KEY BOARD (DSPL)	
S813	1-572-704-31	SWITCH, KEY BOARD (MUTE)	
S814	1-572-704-31	SWITCH, KEY BOARD (SOURCE)	
S815	1-572-704-31	SWITCH, KEY BOARD (MODE)	
S817	1-572-704-31	SWITCH, KEY BOARD (-)	
S818	1-572-704-31	SWITCH, KEY BOARD (SEL)	
S819	1-572-704-31	SWITCH, KEY BOARD (+)	
S820	1-572-704-31	SWITCH, KEY BOARD (+ ▶▶ ▶▶I (SEEK/AMS))	
**********			
		DISPLAY SUB BOARD	
		**********	
		< DIODE >	
D858	8-719-052-61	LED SLR-342PGT31 (- I◀◀ ◀◀ (SEEK/AMS))	(GREEN)
D858	8-719-059-92	LED SLR-342YYT31 (- I◀◀ ◀◀ (SEEK/AMS))	(AMBER)
D859	8-719-052-61	LED SLR-342PGT31 (-) (GREEN)	
D859	8-719-059-92	LED SLR-342YYT31 (-) (AMBER)	
		< SWITCH >	
S816	1-572-704-31	SWITCH, KEY BOARD (- I◀◀ ◀◀ (SEEK/AMS))	
**********			
*	1-659-835-12	LIMIT SW BOARD	
		**********	
		< SWITCH >	
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)	
**********			
*	1-659-837-11	LOAD SW BOARD	
		**********	
		< SWITCH >	
SW4	1-572-288-11	SWITCH, PUSH (DOWN)	
**********			

Ref. No.	Part No.	Description			Remark
*	A-3294-233-A	MAIN BOARD, COMPLETE (G)			
*	A-3294-240-A	MAIN BOARD, COMPLETE (AEP,UK)			
		**********			
*	3-009-844-21	HEAT SINK			
*	3-014-040-01	SHEET (HS)			
*	3-920-529-01	BRACKET (REG) (IC)			
*	3-931-260-01	BRACKET (IC)			
	7-685-792-09	SCREW +PTT 2.6X6 (S)			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
		< CAPACITOR >			
C101	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C102	1-164-346-11	CERAMIC CHIP	1uF		16V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C105	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C106	1-126-157-11	ELECT	10uF	20%	16V
C107	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C108	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C109	1-126-157-11	ELECT	10uF	20%	16V
C110	1-126-157-11	ELECT	10uF	20%	16V
C111	1-126-157-11	ELECT	10uF	20%	16V
C112	1-126-157-11	ELECT	10uF	20%	16V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C122	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C124	1-124-234-00	ELECT	22uF	20%	16V
C125	1-124-234-00	ELECT	22uF	20%	16V
C126	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C127	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C128	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C201	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C202	1-164-346-11	CERAMIC CHIP	1uF		16V
C203	1-164-346-11	CERAMIC CHIP	1uF		16V
C204	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C205	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C206	1-126-157-11	ELECT	10uF	20%	16V
C207	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C208	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C209	1-126-157-11	ELECT	10uF	20%	16V
C210	1-126-157-11	ELECT	10uF	20%	16V
C211	1-126-157-11	ELECT	10uF	20%	16V
C212	1-126-157-11	ELECT	10uF	20%	16V
C214	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C215	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C222	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C224	1-124-234-00	ELECT	22uF	20%	16V
C225	1-124-234-00	ELECT	22uF	20%	16V

Ref. No.	Part No.	Description			Remark
C226	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C227	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C228	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C401	1-126-936-11	ELECT	3300uF	20%	16V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C404	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C405	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C406	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C407	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C409	1-126-163-11	ELECT	4.7uF	20%	50V
C416	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C418	1-124-242-00	ELECT	33uF	20%	25V
C419	1-126-176-11	ELECT	220uF	20%	10V
C420	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C434	1-164-346-11	CERAMIC CHIP	1uF		16V
C435	1-126-288-11	ELECT	4.7uF	20%	25V
C617	1-124-455-00	ELECT	100uF	20%	16V
C619	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C620	1-124-257-00	ELECT	2.2uF	20%	50V
C621	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C622	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C623	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C624	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C626	1-126-233-11	ELECT	22uF	20%	50V
C627	1-104-664-11	ELECT	47uF	20%	16V
C628	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C629	1-104-664-11	ELECT	47uF	20%	16V
C631	1-124-584-00	ELECT	100uF	20%	10V
C633	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C634	1-104-664-11	ELECT	47uF	20%	16V
C635	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C700	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C701	1-124-584-00	ELECT	100uF	20%	10V
C704	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C705	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C706	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C707	1-128-057-11	ELECT	330uF	20%	6.3V
C710	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C711	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C712	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C713	1-162-294-31	CERAMIC	0.001uF	10%	50V
C714	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C715	1-162-294-31	CERAMIC	0.001uF	10%	50V
C716	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C720	1-162-306-11	CERAMIC	0.01uF	20%	16V
C721	1-162-294-31	CERAMIC	0.001uF	10%	50V
C722	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C723	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C725	1-162-294-31	CERAMIC	0.001uF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C727	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C801	1-162-282-31	CERAMIC	100PF	10%	50V
C802	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C805	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C806	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C807	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C808	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C809	1-162-282-31	CERAMIC	100PF	10%	50V
C818	1-162-286-21	CERAMIC	220PF	10%	50V
C821	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C903	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C904	1-126-162-11	ELECT	3.3uF	20%	50V
C907	1-125-701-11	DUBLE LAYERS	0.047F		5.5V
C912	1-126-233-11	ELECT	22uF	20%	50V
C913	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C914	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C916	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C917	1-124-465-00	ELECT	0.47uF	20%	50V
C918	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C922	1-126-162-11	ELECT	3.3uF	20%	50V
C923	1-124-257-00	ELECT	2.2uF	20%	50V
C924	1-126-233-11	ELECT	22uF	20%	50V
C941	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C942	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< JACK >			
CNJ600	1-764-808-14	JACK (ANTENNA)			
		< CONNECTOR >			
CNP501	1-774-701-11	PIN, CONNECTOR 16P			
CNP700	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CNP800	1-764-422-11	PLUG, CONNECTOR 12P			
		< DISCHARGE GAP >			
CP601	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D400	8-719-109-71	DIODE RD3.9ES-B1			
D401	8-719-986-73	DIODE RB441Q			
D411	8-719-991-33	DIODE 1SS133T-77			
D601	8-719-109-85	DIODE RD5.1ES-B2			
D803	8-719-991-33	DIODE 1SS133T-77			
D804	8-719-991-33	DIODE 1SS133T-77			
D805	8-719-991-33	DIODE 1SS133T-77			
D807	8-719-991-33	DIODE 1SS133T-77			
D810	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description	Remark
D811	8-719-109-93	DIODE RD6.2ESB2	
D812	8-719-109-93	DIODE RD6.2ESB2	
D813	8-719-109-93	DIODE RD6.2ESB2	
D814	8-719-109-93	DIODE RD6.2ESB2	
D815	8-719-109-93	DIODE RD6.2ESB2	
D816	8-719-109-93	DIODE RD6.2ESB2	
D817	8-719-109-93	DIODE RD6.2ESB2	
D818	8-719-109-93	DIODE RD6.2ESB2	
D819	8-719-991-33	DIODE 1SS133T-77 (AEP,UK)	
D820	8-719-991-33	DIODE 1SS133T-77	
D901	8-719-923-91	DIODE MTZJ-T-77-16A	
D903	8-719-109-93	DIODE RD6.2ESB2	
D905	8-719-923-93	DIODE MTZJ-T-77-16C	
D908	8-719-991-33	DIODE 1SS133T-77	
D909	8-719-921-74	DIODE MTZN-10A	
D911	8-719-109-89	DIODE RD5.6ESB2	
D912	8-719-109-93	DIODE RD6.2ESB2	
D913	8-719-049-38	DIODE 1N5404TU	
D914	8-719-991-33	DIODE 1SS133T-77	
D915	8-719-109-97	DIODE RD6.8ES-B2	
D918	8-719-929-15	DIODE MTZJ-T-77-9.1B	
D919	8-719-200-82	DIODE 11ES2	
D920	8-719-110-17	DIODE RD10ESB2	
		< IC >	
IC200	8-759-448-48	IC HA13157	
IC400	8-752-075-48	IC CXA1946AQ-T6	
IC700	8-759-364-34	IC SM5877AM	
IC800	8-759-457-38	IC uPD17017GF-B29-3B9	
IC900	8-759-095-60	IC S-81250PG	
		< JUMPER RESISTOR >	
JR2	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR5	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR8	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR9	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR12	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR17	1-216-295-00	CONDUCTOR, CHIP (2012)	
JW47	1-249-421-11	CARBON 2.2K 5% 1/4W	
		< COIL >	
L400	1-410-513-11	INDUCTOR 22uH	
L600	1-410-513-11	INDUCTOR 22uH	
L603	1-410-733-11	INDUCTOR CHIP 0.22uH	
L700	1-410-521-11	INDUCTOR 100uH	
L800	1-410-513-11	INDUCTOR 22uH	
L801	1-410-513-11	INDUCTOR 22uH	
L901	1-411-823-21	COIL, CHOKE (TROIDAL)	

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q102	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q202	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q404	8-729-027-31	TRANSISTOR	DTA124EKA-T146			
Q405	8-729-027-52	TRANSISTOR	DTC124EKA-T146			
Q604	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q605	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q606	8-729-901-98	TRANSISTOR	2SA1036K-R			
Q607	8-729-901-98	TRANSISTOR	2SA1036K-R			
Q608	8-729-900-53	TRANSISTOR	DTC114EK			
Q609	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q804	8-729-027-31	TRANSISTOR	DTA124EKA-T146			
Q901	8-729-822-84	TRANSISTOR	2SB1202FAST			
Q903	8-729-900-53	TRANSISTOR	DTC114EK			
Q904	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q905	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q907	8-729-027-31	TRANSISTOR	DTA124EKA-T146			
Q911	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q912	8-729-101-07	TRANSISTOR	2SB798-DL			
Q913	8-729-900-53	TRANSISTOR	DTC114EK			
Q914	8-729-900-53	TRANSISTOR	DTC114EK			
Q915	8-729-015-11	TRANSISTOR	2SD1802FAST-TL			
Q920	8-729-019-00	TRANSISTOR	2SD2394-G			
Q922	8-729-027-52	TRANSISTOR	DTC124EKA-T146			
Q929	8-729-015-11	TRANSISTOR	2SD1802FAST-TL			
		< RESISTOR >				
R101	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R103	1-249-425-11	CARBON	4.7K	5%	1/4W	
R104	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R105	1-249-425-11	CARBON	4.7K	5%	1/4W	
R106	1-216-041-00	METAL CHIP	470	5%	1/10W	
R107	1-216-041-00	METAL CHIP	470	5%	1/10W	
R108	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R109	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R110	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R111	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R112	1-247-864-11	CARBON	24K	5%	1/4W	
R113	1-247-864-11	CARBON	24K	5%	1/4W	
R119	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R120	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R121	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R123	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R124	1-216-085-00	METAL CHIP	33K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R131	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R132	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R201	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R203	1-249-425-11	CARBON	4.7K	5%	1/4W	
R204	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R205	1-249-425-11	CARBON	4.7K	5%	1/4W	
R206	1-216-041-00	METAL CHIP	470	5%	1/10W	
R207	1-216-041-00	METAL CHIP	470	5%	1/10W	
R208	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R209	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R210	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R211	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R212	1-247-864-11	CARBON	24K	5%	1/4W	
R213	1-247-864-11	CARBON	24K	5%	1/4W	
R219	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R220	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R221	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R222	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R223	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R224	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R231	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R232	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R401	1-247-895-00	CARBON	470K	5%	1/4W	
R411	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R416	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R602	1-216-295-00	CONDUCTOR, CHIP			(2012)	
R626	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R627	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R628	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R629	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R630	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R631	1-216-027-00	METAL CHIP	120	5%	1/10W	
R632	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R633	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R634	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R635	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R636	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R637	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R638	1-249-415-11	CARBON	680	5%	1/4W	
R639	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R640	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R641	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R642	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R645	1-216-295-00	CONDUCTOR, CHIP			(2012)	
R700	1-216-001-00	METAL CHIP	10	5%	1/10W	
R704	1-247-807-11	CARBON	100	5%	1/4W	
R705	1-249-401-11	CARBON	47	5%	1/4W	
R706	1-216-037-00	METAL CHIP	330	5%	1/10W	

MAIN | **SERVO**

Ref. No.	Part No.	Description				Remark
R708	1-216-027-00	METAL CHIP	120	5%	1/10W	
R711	1-247-807-11	CARBON	100	5%	1/4W	
R712	1-247-807-11	CARBON	100	5%	1/4W	
R713	1-247-815-00	CARBON	220	5%	1/4W	
R724	1-216-295-00	CONDUCTOR, CHIP		(2012)		
R802	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R804	1-249-429-11	CARBON	10K	5%	1/4W	
R807	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R808	1-249-429-11	CARBON	10K	5%	1/4W	
R809	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R810	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R812	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R813	1-249-429-11	CARBON	10K	5%	1/4W	
R814	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R818	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R819	1-249-418-11	CARBON	1.2K	5%	1/4W	
R820	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R821	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R822	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R823	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R824	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R825	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R826	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R827	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R829	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R830	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R833	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R836	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R837	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R838	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R839	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R840	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (AEP,UK)	
R902	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R903	1-249-421-11	CARBON	2.2K	5%	1/4W	
R905	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R909	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R910	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R911	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R912	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R921	1-247-887-00	CARBON	220K	5%	1/4W	
R922	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R923	1-249-421-11	CARBON	2.2K	5%	1/4W	
R924	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R925	1-249-413-11	CARBON	470	5%	1/4W	
R927	1-249-417-11	CARBON	1K	5%	1/4W	
R928	1-249-417-11	CARBON	1K	5%	1/4W	
R929	1-216-033-00	METAL CHIP	220	5%	1/10W	
R930	1-249-435-11	CARBON	33K	5%	1/4W	
R931	1-247-790-11	CARBON	20	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R932	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R933	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R934	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R938	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R950	1-247-820-11	CARBON	360	5%	1/4W	
R951	1-247-820-11	CARBON	360	5%	1/4W	
		< SWITCH >				
S900	1-571-532-21	SWITCH, TACTILE (RESET)				
		< TUNER >				
TU1	1-693-373-11	TUNER UNIT				
		< THERMISTOR >				
TH900	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510				
		< VIBRATOR >				
X700	1-579-280-11	VIBRATOR, CRYSTAL (16.934MHz)				
X800	1-760-223-11	VIBRATOR, CRYSTAL (4.5MHz)				
**********						
*	A-3309-227-A	SERVO BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C2	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V	
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V	
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C13	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C24	1-163-259-00	CERAMIC CHIP	220PF	5%	50V	

Ref. No.	Part No.	Description			Remark
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-565-728-11	CONNECTOR, FPC 17P			
CN3	1-770-347-21	CONNECTOR, FPC 6P			
		< IC >			
IC1	8-752-372-94	IC CXD2507AQ			
IC2	8-752-069-56	IC CXA1782BQ			
IC3	8-759-354-16	IC BA6796FP-T1			
		< JUMPER RESISTOR >			
JR1	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR2	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR3	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR4	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR5	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR6	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR7	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR8	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR9	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR10	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR11	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR12	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR13	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR14	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR15	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR16	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR17	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR18	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR19	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR20	1-216-296-00	CONDUCTOR, CHIP	(3216)		

Ref. No.	Part No.	Description		Remark
JR21	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR22	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR23	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR24	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR25	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR26	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR27	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR28	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR29	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR30	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR31	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR32	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR33	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR34	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR35	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR36	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR37	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR38	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR39	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR40	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR41	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR43	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR44	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR45	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR46	1-216-296-00	CONDUCTOR, CHIP	(3216)	
		< COIL >		
L1	1-412-058-11	INDUCTOR CHIP 10uH		
L2	1-412-058-11	INDUCTOR CHIP 10uH		
L3	1-412-058-11	INDUCTOR CHIP 10uH		
		< TRANSISTOR >		
Q1	8-729-904-60	TRANSISTOR DTB113ZK		
Q2	8-729-904-86	TRANSISTOR 2SB1197K-Q		
		< RESISTOR >		
R1	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R2	1-216-097-00	METAL GLAZE	100K 5% 1/10W	
R3	1-216-121-00	METAL GLAZE	1M 5% 1/10W	
R4	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	
R5	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	
R6	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R7	1-216-009-00	METAL CHIP	22 5% 1/10W	
R8	1-216-119-00	METAL CHIP	820K 5% 1/10W	
R9	1-216-119-00	METAL CHIP	820K 5% 1/10W	
R10	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R11	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R14	1-216-085-00	METAL CHIP	33K 5% 1/10W	
R15	1-216-085-00	METAL CHIP	33K 5% 1/10W	

SERVO **SUB**

Ref. No.	Part No.	Description				Remark
R16	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R19	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R20	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R21	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R22	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R23	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R27	1-216-295-00	CONDUCTOR, CHIP		(2012)		
R28	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R29	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R30	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R31	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R32	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R33	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R34	1-216-009-00	METAL CHIP	22	5%	1/10W	
R35	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R36	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R37	1-216-117-00	METAL CHIP	680K	5%	1/10W	
R38	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R39	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R40	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R41	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R42	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R43	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R46	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R47	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R49	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R51	1-216-295-00	CONDUCTOR, CHIP		(2012)		
		< VARIABLE RESISTOR >				
RV1	1-238-091-11	RES, ADJ, CERMET 22K				
RV4	1-238-091-11	RES, ADJ, CERMET 22K				

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*	1-659-834-11	SUB BOARD	
		**********	
		< CONNECTOR >	
CN1	1-770-347-21	CONNECTOR, FPC 6P	

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
9	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
⚠210	8-848-402-02	PICK-UP, OPTICAL KSS-520A/J2NP	
F501	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M901	X-3371-664-1	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	

****

		ACCESSORIES & PACKING MATERIALS
		**********
	3-859-004-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH)(G)
	3-859-004-21	MANUAL, INSTRUCTION, INSTALL (FRENCH, DUTCH,GERMAN,ITALIAN)(AEP,UK)
	3-859-066-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH)(G)
	3-859-066-21	MANUAL, INSTRUCTION (FRENCH,DUTCH, GERMAN,ITALIAN)(AEP,UK)
	X-3373-134-1	CASE ASSY

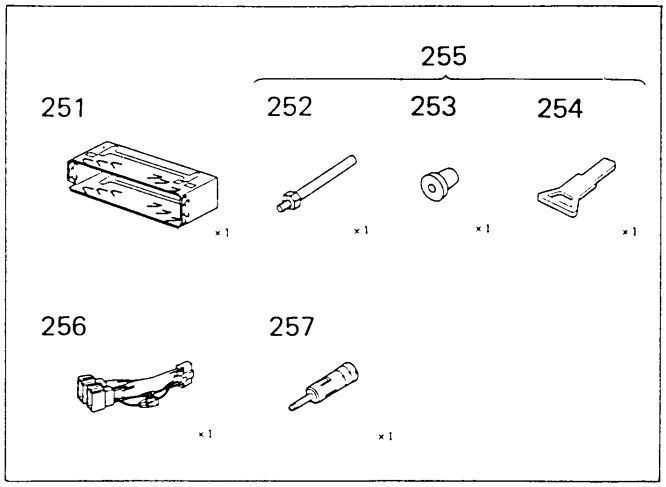
****

		**********
		HARDWARE LIST
		**********
#1	7-627-000-00	SCREW, PRECISION +P1.7X2.2 TYPE3
#2	7-685-791-09	SCREW +PTT 2.6X5 (S)
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)
#4	7-685-793-09	SCREW +PTT 2.6X8 (S)
#5	7-621-772-10	SCREW +B 2X4
#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT
#7	7-628-253-00	SCREW +PS 2X4
#8	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3
#9	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3
#10	7-627-850-28	SCREW, PRECISION +P 1.4X3

****

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	3-916-161-31	FRAME ASSY	
252	3-386-828-01	SCREW, FITTING	
253	3-349-410-01	BUSHING	
254	3-388-078-01	KEY	
255	X-3370-077-1	SCREW ASSY (AE.KEY), FITTING	
256	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
257	1-465-459-21	ADAPTOR, ANTENNA	



9-925-575-11

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Personal & Mobile Communication Company

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